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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

Vol. 85, No. 2 FEBRUARY, 1932 Member A.B.C.-A.B.P.

Fighting Fires, During Freezing Weather, Means Added Dangers and Greater Discomforts for the Men

Here is NEWS

for those towns who are still using a BELL, or a WHISTLE as a fire signal . . .

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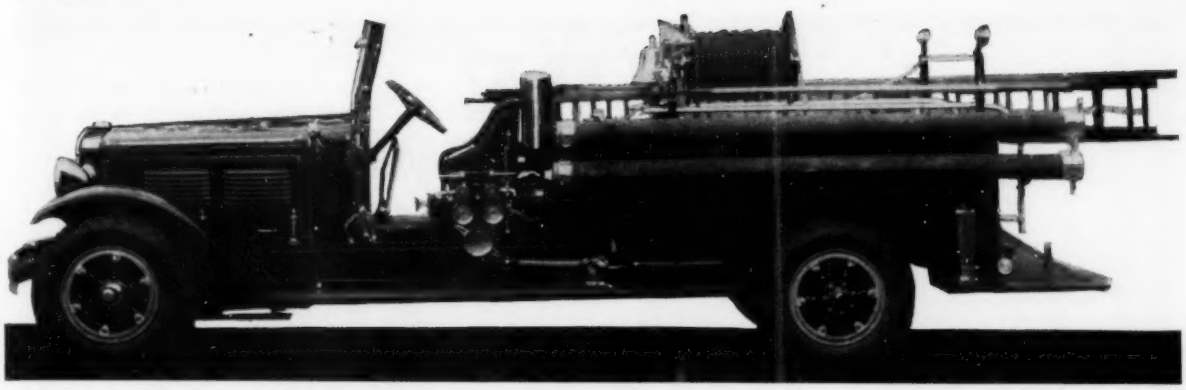

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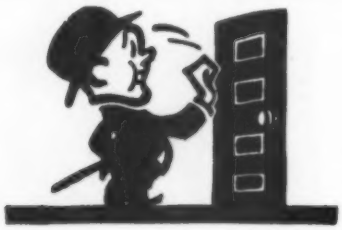

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● Send your ad along—don't hesitate.

The Publishers

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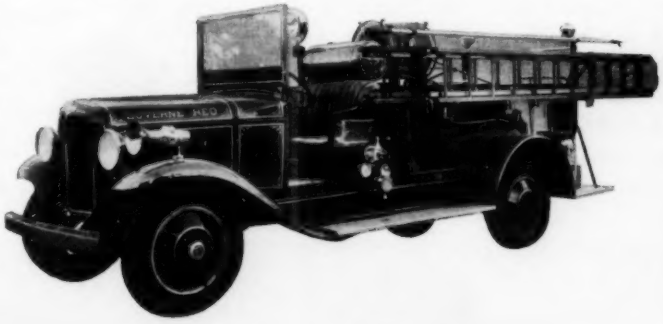

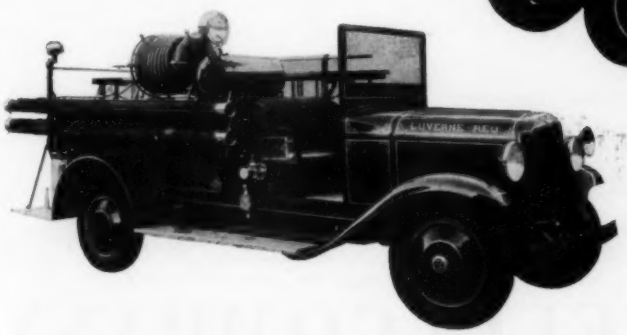

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Motor Vehicle Accidents No Longer Hazard the Receipt of Fire Alarms

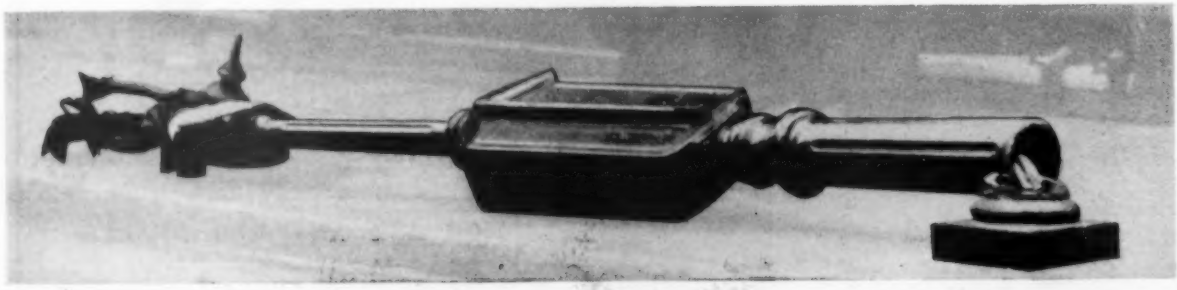
Accidents will happen to fire alarm pedestals as a result of either careless or drunken driving of motor vehicles. One city reports an average of 70 pedestals a year disabled from this cause—another smaller city had approximately seventeen such accidents in a twelve-month period.

The two photographs shown were taken in one municipality; the pedestal in the upper view having been knocked down TWICE in ONE month by trucks.

"A BOX A BLOCK"

In the past when a pedestal was knocked down, generally several fire alarm circuits were crippled, and scores of fire alarm boxes put out of commission for a short period, until the damage could be repaired. Now, the new 3-FOLD principle of fire alarm transmission and reception is being provided in both boxes and central office equipment of the latest Gamewell design, to offset such accidents as this and many other conditions which were hazardous to the receipt of fire alarms.

Gamewell sales engineers are located at convenient points around the country. The one nearest to your city will be glad to explain our 3-FOLD system in more detail, and show you how it can be applied to your needs. A letter to our factory will bring him, without obligation.



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FIRE ENGINEERING

The Journal of the Fire Protection Profession

Volume 85 FEBRUARY, 1932 Number 2

With the Editor

Dangerous Economy

Fire loss figures show, in a very conspicuous manner, the fact that fire losses increase during periods of depression. One insurance company some years ago prepared a chart showing parallel increases of fire losses and business failures.

Yet many cities seem to think that economy measures can be applied safely to the fire service in times of depression in order to reduce the city budget. In such cases the purchase of new apparatus to supplement that already in service, or replacement of obsolete machines with dependable trucks, would be considered almost a waste of public money.

Such a belief is dangerous in the extreme.

Though a city may have shown an excellent fire loss record for the past few years, this is no assurance that the same record will be maintained in future years without increasing the strength of the department. Big fires of questionable origin are now occurring in increasing numbers, demanding far more of the department than was required of it in normal times. Housekeeping conditions in industrial plants have become relaxed, due to depressed business conditions, and in many plants an accumulation of inflammable, manufactured goods is on hand awaiting purchasers. All in all, the stage is set for some mighty serious fires if the policy of weakening the Fire Department is adhered to.

Never before in the history of this country has there been greater need for well manned and well equipped Fire Departments; never before has there been need for greater reserves.

Those who would cripple the efficiency of the fire fighting forces by delaying the purchase of modern apparatus are following a very short-sighted policy. They apparently fail to realize that the loss of an industrial plant at this time would mean an increase in the unemployed, and as over 40% of the industrial plants burned down are never rebuilt, a loss of one of a municipality's large industries may have a lasting effect.

The cost of efficient fire protection may be considered high, but in reality it is very small when compared to increased insurance rates which would result from an augmented fire loss; the cost of fire protection is small when compared with the tax revenue from industrial plants which are protected against destruction by the Fire Department.

If there has been need for efficient fire protection in normal times, there is double the need for it now.

If dependable apparatus was required five years ago, dependable apparatus in greater numbers is needed today.

Modern fire apparatus is the best insurance a city can procure against big fire losses today; to skimp on apparatus is a most dangerous economy.

Fred. Sheppard

Partial view of examination room in the New York Civil Service Commission. Fifteen of the twenty-three deputy chiefs competing for promotion to rank of Chief of Department: 1—T. R. Langford; 2—George T. McAleer; 3—John Norton; 4—John J. T. Waldron; 5—John J. Flood; 6—James Quinn; 7—James W. Heffernan; 8—John O'Connell; 9—Henry B. Helm; 10—Frank Murphy; 11—Patrick Walsh; 12—Joseph O'Hanlon; 13—John J. McElligott; 14—David J. Kidney; 15—John Davin. A—Thomas C. Murray, Director of Examinations; B—Burns Gillam, Assistant Examiner. The other eight candidates are present but not in the picture.

New York Holds Test for Chief

Questions Asked 23 Candidates by Municipal Civil Service Commission

By William Jerome Daly

AN eligible list from which Fire Commissioner of New York City can appoint a Chief of Department will be available by March 1, if the Municipal Civil Service Commission's efforts to have the examination papers rated by that time, are to prevail. The promotion test, taken by twenty-three of the thirty-four Deputy Chiefs of Department was held on January 20, 21 and 22, to fill the vacancy caused by the retirement of John Kenlon on March 4 last. The position pays $12,500 a year and is filled by competitive examination.

FIRE ENGINEERING publishes herewith the questions asked in all subjects on the three different days of the test. The examination is regarded by fire fighters in New York as one of the stiffest tests ever propounded for that important position. It is the highest paid competitive civil service position in the municipal service of the metropolis. The test originally scheduled for last June was postponed without explanation. Public pressure and newspaper criticism provoked the Civil Service Commission to renewed activity and the test was ordered held in January.

The examination was divided into three parts and weights: Administration 7, laws and ordinances 3 and report 2. It will be necessary for successful candidates to obtain 70% in the written test and 80% on the total average.

Record and seniority ratings are graded as follows: Beginning with the date of promotion to Deputy Chief, 80%; For each additional three months in the grade within five years immediately preceding the examination, add ½ of 1% or 2% a year, making at the end of five years, a total of 90%; For each additional three months in the grade more than five years preceding the date of examination, add ¼ of 1% or 1% a year, making at the end of ten years, a maximum of 95%. Added points (official awards Fire Department) are allowed as follows: Roll of Merit, Class 1 and Medal or Roll of Merit, Class A and Medal or Honorable Mention and Medal, add 1%; Roll of Merit, Class 2 or Roll of Merit, Class B or Honorable Mention, add .75 of 1%; Roll of Merit, Class 3 or Roll of Merit, Class C or Commendation, add .50 of 1%.

Since there were no disciplinary complaints lodged against any of the candidates and consequently no penalties, there are no deducted points to be recorded against any of the following who entered and finished the three days competition: Thomas F. Dougherty, Acting Chief of Department; Patrick Walsh (1), Assistant Chief of Department; John J. McElligott, Assistant Chief of Department; John Davin, In Charge, Brooklyn and Queens; Joseph O'Hanlon, Acting-in-Charge, Brooklyn and Queens; Raymond L. George, 1st Div.; James W. Heffernan, 1st Div.; Henry B. Helm, 2nd Div.; John J. T. Waldron, 2nd Div.; John J. Flood, 3rd Div.; David J. Kidney, 3rd Div.; Frank Murphy (2) 4th Div.; Robert E. McGannon, 7th Div.; Daniel J. Carlock, 8th Div.; Frederick F. Mahoney, 8th Div.; George T. McAleer, 10th Div.; James A. Quinn, 10th Div.;

John F. Norton (1), 11th Div.; Ferdinand Butenschoen, 12th Div.; Thomas R. Langford, 12th Div.; John J. O'Connell, 14th Div.; Garrett J. Langdon, 15th Div.; George O'Shea, 15th Div.

The questions were compiled by the examiners of the commission in conjunction with the engineering staff of the National Board of Fire Underwriters. As engineers of the National Board will rate the answers on the technical subjects of fire fighting, all answers given by candidates were copied on typewriting machines by a staff of ten typists. The typewritten copies of the answers are the ones which the Underwriters' Engineers will handle and in that way it will not be possible to distinguish any particular style or character of handwriting of a candidate.

Typewritten Copies of Answers Insure Secrecy

One of the candidates, Deputy Chief Thomas R. Langford, took the examination for Chief of Department on July 10, 1911—over twenty years ago when only ten deputy chiefs competed and four of them passed. Langford was one of the four. He had a final average of 82.13%. John Kenlon headed the list and was promoted to Chief of Department. Chief Langford is 67 years of age and has been in the department 48 years.

While the recent examination was taking place, the fire fighting force of the city was in charge of Deputy Chief John F. King, one of the department's veterans. He was relieved at times by Deputy Chief George L. Ross.

The questions propounded in the recent test were mimeographed in a room adjoining the examination hall on the 14th floor of the Municipal Building—the offices of the Civil Service Commission. The ink was still moist on the question papers when handed out to the competing candidates. Director of Examinations Thomas C. Murray, his assistant, Miss Helen Higgins, and Assistant Examiner Burns Gillam were the only monitors in the room during the tests.

Municipal Civil Service Commission, New York, Promotion to Chief of Department, Fire Dept.

Date: January 20, 1932

Administration, Weight 7

PART I—To Be Finished At 1.00 P.M.

Note 1. Candidates should use extreme care throughout this examination not to reveal their identities. Any reference by a candidate to facts connected with his career by which his identity may be revealed may lead to his disqualification.

Note 2. The letters (a), (b), (c), and (d) used in the following questions are for convenience only. They do *not* indicate that the sub-divisions of questions so marked are of equal weight.

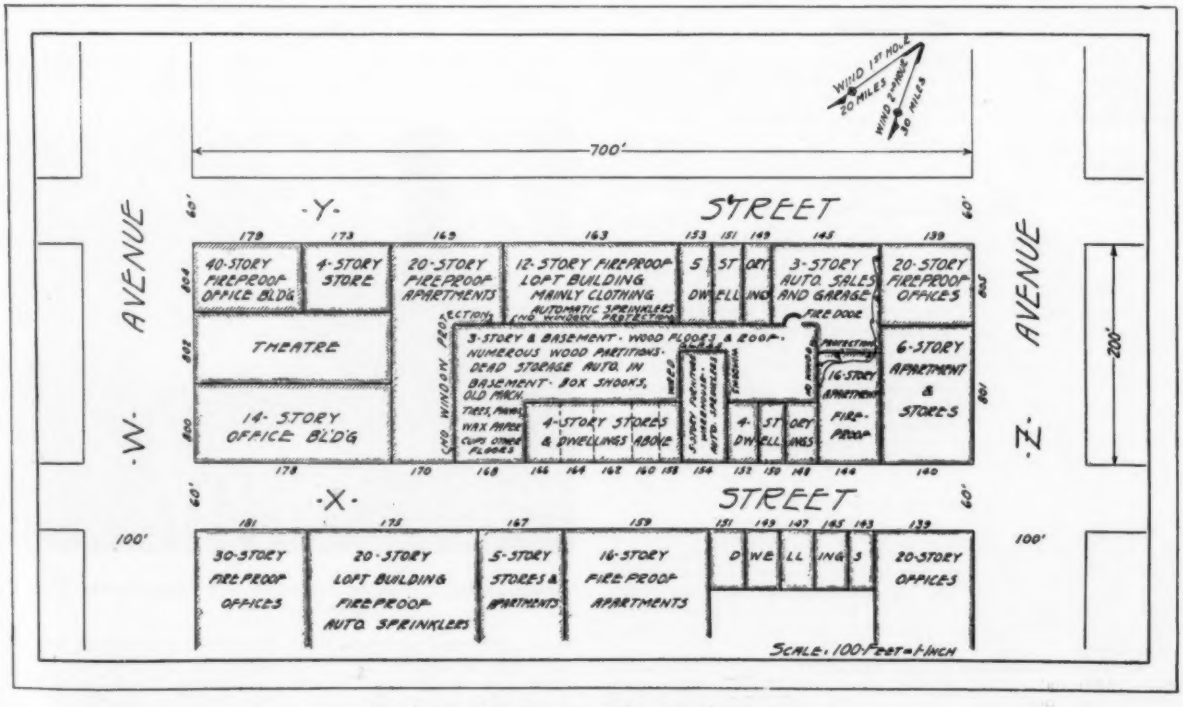
Note 3. Part I of Administration consists of questions 1 to 6, printed on 2 sheets. Together with these question sheets, candidates will receive a sketch. The sketch does not show smaller details. For example, candidates should assume the existence of any courts and windows required by law even though these are not indicated on the sketch.

Questions 1, 2, 3 and 4

The sketch shows an imaginary block located in central Manhattan somewhere between 35th and 45th Streets. Assume that a fire is under way which, potentially, is the most dangerous fire possible in that block at the time of the arrival of the first alarm companies.

(a) State where in the central block this most severe fire originated. If it occurred in the night, what particular conditions and circumstances would be present? State also what possibilities and probabilities exist.

(b) The first alarm is followed immediately by a second alarm to which you respond. Outline briefly the calls which you would send out and the general locations to which you would assign chief officers and their companies. Indicate what operations you would expect them to perform at the various strategic points.



Sketch for Questions 1 to 4, Part 1, Administration

You have been at the above fire one hour when you receive word that a third alarm has been received for a partially completed (lathed but not plastered) apartment house in the Bronx near the city line, followed almost immediately by a third alarm from an oil refinery in Greenpoint. Half

Photograph No. 1, Used in Connection with Administration, Part II, Questions 7 to 9

an hour later, a first alarm, immediately followed by a fourth alarm, is sent out for the pier shed at 22nd Street and Hudson River.

(c) State in detail your procedure as chief of the department.

(d) If, under these circumstances, you are advised by Fire Alarm Headquarters that a call has been received from the Staten Island water front, master station assignment number 1, state what instructions you would give.

Question 5

Baltimore has reserve apparatus enough to require the whole off shift to man it. Lay out a program, to be realized over a term of years, for the purchase of reserve apparatus by New York City, for its assignment, and for its operation.

Question 6

Without comment or discussion, list in the order of their importance six, and only six, major problems which the next chief of the Fire Department must work out if the department is to become and to remain as efficient as possible.

NOTE—*Make sure that nothing in your answers reveals your identity.*

Administration, Weight 7

PART II—To Be Finished At 5.00 P.M.

Note 1. Candidates should use extreme care not to reveal their identities. Any reference by a candidate to facts connected with his career by which his identity may be revealed may lead to his disqualification.

Note 2. The letters (a), (b), (c) and (d) used in the following questions are for convenience only. They do *not* indicate that the sub-divisions of questions so marked are of equal weight.

Note 3. Part II of Administration consists of questions 7 to 12 printed on 2 sheets. Together with these question sheets, each candidate will receive 3 photographs.

Questions 7, 8 and 9

Photograph No. 1 shows St. James Church which is at the north east corner of Madison Avenue and East 71st Street, Manhattan. You respond on a second alarm at 5:30 a.m. and find that the fire has gained great headway in the church and that a wind of forty miles an hour is driving it against the buildings to the north and east. You send a fifth alarm.

(a) What conditions could arise which might necessitate any additional calls? Under these conditions, what calls would you send and where would you concentrate your companies? State briefly the procedure of attack.

About 6:30 a.m. a fire alarm followed by a third alarm is received for the building at Fulton Street and Flatbush Avenue, Brooklyn, shown in Photograph No. 2. Half an hour later, a fifth alarm is received for this fire.

About 7:15 a.m. fire is discovered in the Bronx which at 7:30 a.m. necessitates a fourth alarm; at 8:10 a.m. a fifth alarm is transmitted from the Rockaways.

(b) State in general what amount of apparatus would still be available in fire houses for the protection of the city and in what portion of the city most of it would be located.

(c) What would be your procedure if an alarm was received about 8:30 a.m. from the Armory at Park Avenue and East 66th Street, Manhattan shown in Photograph No. 3, and if you were informed that the fire had made considerable headway?

NOTE—*All the alarms mentioned in Questions 7, 8 and 9 occur on the same day.*

Question 10

(a) After a sprinkler tank has fallen through the floors of a building, what further use would you make of the sprinkler system? Why?

(b) Discuss the limitations of turret nozzle streams and of water tower streams.

(c) Discuss the question of the number of companies which should respond to alarm by telephone and to alarms by special building boxes.

(d) Discuss the question whether any modification of present first alarm assignments to boxes is advisable.

Question 11

(a) Discuss the need of new repair shops for the New York Fire Department.

(b) Outline a program for the inspection and upkeep of apparatus.

Question 12

The work performed by the rescue companies has proven of great value, particularly in connection with smoky fires and fires where men are handicapped by gases. Discuss the general question of the needs of the department in this connection and give briefly your recommendations with reason.

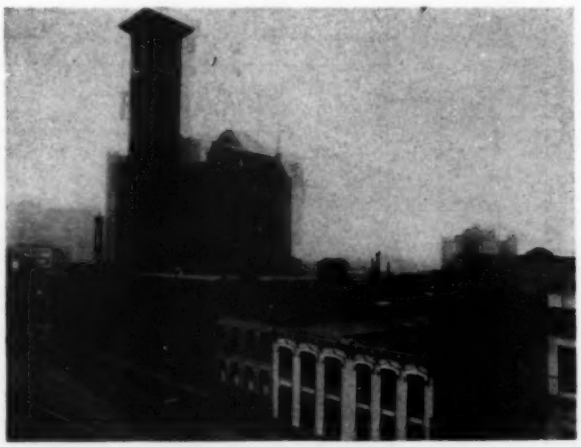
NOTE—*Make sure that nothing in your answers has revealed your identity.*

Laws and Ordinances, Weight 3

PART I—To Be Finished At 1.00 P.M.

Question 1

An engineering organization appeals to the Board of Standards and Appeals from an order of the Fire Commis-



Photograph No. 2, Used in Connection with Administration, Part II, Questions 7 to 9

sioner, affecting premises located at West 57th Street, in the Borough of Manhattan. The order of the Fire Commissioner was as follows: "Install an approved standpipe system in accordance with the rules of the Board of Standards and Appeals."

The following is an abstract from the minutes of the Board of Standards and Appeals:

"The building is of fireproof construction, one and five stories (74 ft. 3½ in.) in height, 75 ft. by 200 ft. 10 in. (about 14,000 sq. ft. in area) at first story and 75 ft. by 70 ft. (about 5,200 sq. ft. in area) above; OCCUPIED as an art school, total of 351 persons, not more than 100 persons to a story."

(a) Discuss fully the extent of the authority of the Fire Department over the foregoing matter and the conditions under which a modification of the order of the Fire Commissioner may be made.

(b) Give fully the substance of the laws and ordinances or of any rules having the effect of law, that apply in the case.

Question 2

A nine-story loft building is occupied as follows: The basement is divided into two parts, the front part being used as a barber shop. In the rear of the basement is the steam heating plant, a small incinerator, the offices of the superintendent of the building, storage rooms and space for such tools and equipment ordinarily found in buildings of this type.

On the ground floor is a restaurant of the cafeteria type; on the second and third floors, 70 persons are engaged in the manufacture of cloaks and suits; on the fourth, fifth and sixth floors, 85 girls are engaged in the manufacture of silk underwear; on the seventh floor is a leather goods factory and there are 40 men and women employed; on the eighth and ninth floors there is a dress manufacturer who employs 64 persons. The house has a 50 ft. front and is 125 ft. deep.

What are the minimum requirements with regard to stairway, elevator and fire escape equipment according to the law? What fire protection devices would be required in a building of the aforementioned type? What is the basis, at law, for the requirements and devices you suggest?

Question 3

(a) What five (5) gases are most widely used in this city as refrigerants? In what Class System (as defined by the Code of Ordinances) is each of these refrigerants most frequently used? How are each of these gases classified with respect to the terms "flammable" and "irritant?"

(b) Epitomize the chemical and physical properties of these gases and discuss precautions commonly to be taken in their use, (supporting your answer wherever possible by quotations from the Code).

(c) Sketch an absorption type of refrigerating system and describe briefly its method of functioning and operation.

Question 4

From the standpoint of the spread of fire in buildings, what are the four outstanding restrictive and protective features with respect to construction around which the building code now in force is built? Indicate briefly the function of each of these features.

Question 5

What jurisdiction has the Fire Department in regard to inspection and remedying of improper conditions in

(a) State Armories	(b) Schools
(c) Post Offices	(d) Bonded Warehouses
(e) Municipal piers	(f) United States Hospitals
(g) Boats in the harbor	(h) Boats at piers

(i) United States Army Posts or Navy Yards.

Laws and Ordinances, Weight 3

PART II—To Be Finished by 5.00 P.M.

Question 6

The following statement has been made in a recent report based on a survey of fire protection methods in New York City.

"The regulations on flammable motion picture films last amended in 1915, are incomplete and out of date."

Make a critical analysis of the validity of this statement.

Question 7

(a) What are the ordinance requirements governing the location, installation and protection of tanks intended for the storage of inflammable oils?

(b) What are the principal liquefied petroleum gases used in industry and for domestic purposes? How do they differ from ordinary petroleum liquids such as gasoline and kerosene? To what extent are the location and bulk storage of these gases covered by municipal regulations, and what additional requirements would you consider necessary?

Question 8

(a) The inspection subsequent to a slight fire in a 4-story joisted brick loft building, having undivided floor areas, each

Photograph No. 3, Used in Connection with Administration, Part II, Questions 7 to 9

floor exceeding 10,000 square feet, and containing occupancies of a readily combustible nature, discloses that a side and rear wall are of poor integrity and that floor beams and columns are not designed to carry the floor loads normal to these particular occupancies. How could the city cause such conditions to be abated and upon what would remedial action be based?

(b) Assuming the absence of private fire extinguishing equipment in the above noted building, what would you recommend for installation? Who would have jurisdiction in such matters and upon what would his authority be based?

Question 9

(a) What are the requirements for the protection against fire of steel beams and columns in the case of fireproof construction?

(b) What materials and workmanship may be used for fireproofing steel?

(c) Describe what fire tests should be made on a material to determine its fireproof qualities for use as a floor filling.

(d) State the requirements for the protection of exterior openings as a safeguard against spread of fire.

Question 10

Fires involving chemicals, either in storage or in the process of manufacture, present problems which can be solved only with the aid of a knowledge of the important properties of these chemicals.

The accompanying table contains a list of 25 chemicals likely to be encountered in fire-fighting.

Tabulate briefly the following data concerning each of these.

(a) Chemical and physical properties (data as to whether the substance is combustible, non-combustible, explosive, or a supporter of combustion, chemical affinities, chief chemical reactions, physical state, etc.).

(b) Physiological properties (data as to whether the substance is poisonous, asphyxiating, corrosive to skin, etc.).

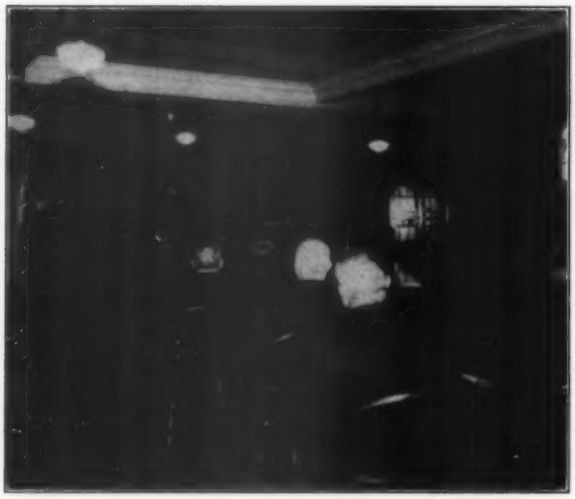
(c) Methods of attack (how best arrested or extinguished in fire-fighting).

(d) Methods of storage and handling (how best stored or handled for industrial purposes including an epitome of the laws and ordinances governing its usage in New York City.

Table of Chemicals

1. Glacial acetic acid	2. Hydrofluoric acid
3. Nitric acid	4. Picric acid
5. Sulphuric acid	6. Carbon bisulphide

(*Continued on page 74*)



Fire Commissioner Edward F. McLaughlin Delivering Address at the Opening of the Boston Fire College

When Firemen Go to School

By HARRY BELKNAP

THE Boston Fire College, terms of which were suspended for the past several years, has now been re-established by Fire Commissioner Edward F. McLaughlin and Chief Henry A. Fox on a much broader and more comprehensive scope than heretofore.

The department drill school and company evolutions were continued during the time that the college was discontinued.

With a view to improving the morale and increasing the efficiency of the department, and in order that the officers and men might be taught a systematic and uniform method of operation at fires and be provided with the technical knowledge necessary to their work, it was suggested by the Fire Commissioner at the monthly meetings of the Deputy Chiefs that a Fire College be re-established in the department. This subject met with the approval of the chief officers and on May 21, 1931, a committee was appointed by the Commissioner to draw plans and to arrange schedules for a Fire College for the Boston Fire Department.

Fire College Committee Appointed by Commissioner

The committee appointed by the Commissioner comprised the following members of his command:

Assistant Chief of Department Henry J. Power, Chairman
Henry A. Fox, Chief of Department
Albert J. Caulfield, Deputy Chief, Fire Prevention Bureau
John J. Kelley, Deputy Chief, Division 1
Charles A. Donohoe, District Chief, District 13
Samuel J. Pope, District Chief, District 7
George L. Pickett, Superintendent, Fire Alarm Division
Edward E. Williamson, Superintendent, Maintenance Division
Walter J. Burke, Superintendent, Wire Division
John J. Creehan, Lieutenant, Drill Master

On June 1, 1931, the committee convened at the Fire Commissioner's office in the Fire Alarm Headquarters in The Fenway, and, after organizing, proceeded as follows:

The committee was addressed by the Fire Commissioner who informed them of the purpose and object of the college, and outlined in a general way his desire, as a result of previous discussions at the monthly meetings of the chief officers, to re-establish the college for a two-fold purpose: First to give the officers and men the benefit of practical instructions in their various duties as members of the department by lectures given by experienced officers possessing that knowledge, and second, to increase the efficiency of the department by securing the assistance of experts to lecture on all matters incidental to, or pertaining to Fire Department affairs. The ultimate result will be to give the officers and privates of the department an educational course, the like of which has never been attempted in any city in the country.

Plan and Method of Operation Adopted

The following plan and method of operation were adopted: The attendance at the first term of the college shall comprise all chief officers, captains, and lieutenants in the department and this term shall continue until all officers have completed the course. A subsequent term is to include all the privates in the department. The quarters of Engine Companies 26 and 36, being centrally situated with spacious hall and splendid accommodations for showing pictures as part of the curriculum, were

Demonstration of the Model Water Tower and Model Building Used in College Instructions

selected as the place for holding the classes. The hours for holding the classes were set at 9:30 a.m. to noon.

There are 256 eligible officers divided into classes of approximately 40 men as a working basis for each class. The men were apportioned as follows: two officers from each district, one on and one off, constituting 30 men; two District Chiefs from each division, one on and one off, or 6 men, and 1 Deputy Chief, making a total in all of 37 men. Three additional officers (one from each division) constitute a complement of 40 men. The selection of members attending the classes was left to the discretion of the Deputy Chiefs in their respective divisions.

College Opens Its Sessions

The college opened November 30, 1931, and will continue until June 1, 1932.

The dates of the lectures are subject to change to meet conditions and emergencies. After completing the course, members attending will be examined, and those receiving a passable mark of 70 per cent will receive a fire college diploma. All officers and privates of the department must attend the college when, and as directed, whether on or off duty. Smoking during classes is absolutely prohibited and all the dignity of the class room is preserved.

Fire Commissioner Addresses Opening Session

At the opening session of the college Fire Commissioner Edward F. McLaughlin made the following address:

"The purpose for which the Boston Fire Department was organized is the primary purpose for which the office of Fire Commissioner was established, namely, for the extinguishment of fire in the city of Boston.

"Since the position was originally established by law the requirements and responsibilities pertaining to it have increased a hundredfold. Where originally the principal duties of the Fire Commissioner consisted in the administration of discipline, the purchase of equipment, and the determination of a few policies necessary for the proper management of the affairs of the department, the force was smaller, the equipment was less expensive, and the method of fighting fires was entirely different.

"Time and modern science have wrought many changes. America and American cities have grown rapidly. Fire Departments have been obliged to keep pace with this tremendous growth. Today a Fire Commissioner of a Metropolitan Fire Department has many duties to perform. His daily program is so varied, and he is required to keep in touch with so many matters of interest to the department that it takes practically all the time one person can give to look after the administrative details.

"You officers have seen the Boston Fire Department grow and expand in the last 20 years—yes, in the last 10, and as the responsibilities of the Commissioner have increased, so have the responsibilities of the rank and file under him increased. The whole method of fire fighting has changed in 20 years—motor fire apparatus has come in; motor pumping engines have been developed; high pressure systems have been installed; standpipes, sprinklers, and many other forms of auxiliary fire protection now make up part of our great fire-fighting system. The maintenance of all this equipment and our fire alarm system has had to be kept up to the minute. One of the most important responsibilities which has been placed on the head of a Fire Department in recent years is the matter of fire prevention.

"For years the fire loss of the country has been mounting constantly; hazardous occupancies have been crowding into our cities, and these occupancies have to be regulated and controlled in the interest of the greatest number.

"Only a few years ago, following the introduction of the automobile into popular use, garages were one of our greatest hazards and gravest concerns. Today, because of regulation and constant supervision, a public or private garage is one of our safest buildings. To the same end, we have to keep watch on all businesses which use materials of a highly inflamable nature.

"This is also true of electrical materials and in 1919 the Wire Division was added to the Fire Department in order that the Fire Commissioner might regulate insofar as possible, the hazards connected with electrical installations and inferior appliances. All these things have brought about greater responsibilities for the head of a Fire Department and these responsibilities must be shared by those under him if he is to have an effective organization.

"We have closely followed a policy of standardizing our equipment to avoid confusion. Likewise we should standardize our methods. Where we have many men we have many minds and a multiplicity of ideas. To bring all these ideas together, to establish, insofar as it is humanly possible to do so, a standard method of using our already standardized equipment it was my opinion that a Fire College was the proper idea.

"I do not believe that the Legislature ever intended that the Fire Commissioner was to be a fire fighter and take care of the fire fighting force at large fires, for it expressly states that the Fire Commissioner shall appoint a Chief of Department. I believe I know equally as much about fire fighting as any of my predecessors, with the possible exception of one who came up from the ranks; but I do believe that the Legislature intended that the Fire Commissioner should be the guiding and administrative head of the Fire Department, advancing those things which are for its best interest and establishing policies which will bring about the best results.

"In order that the college should include in its curiculum the matters of most importance, and that its organization should be of the highest type, I discussed the matter at great length with the Deputy Chiefs and the heads of the various divisions of the department. It was the unanimous opinion of these officers that a committee should be appointed to formulate plans for a college. Such a committee was selected from the various ranks of the officers of the department. I had several conferences with this committee and we freely and frankly discussed the problems that might confront us. I wish at this time to express my personal sincere appreciation and thanks for the wonderful work and untiring efforts of this committee and for the assistance it has been to me.

"I want the committee to continue to function; to meet occasionally; and to submit any recommendations it might have to add to the value of the college. Any officer in the department has the privilege of submitting directly to me, at any time, any suggestion he might have which he believes would raise the standard of the college.

"Remember, men, that you are officers of a great Metropolitan Fire Department; you hold responsible positions in an organization that spends approximately $5,000,000 a year; you are members of an organization that typifies the greatest of human ideals—a service that saves; this college has been established for no other purpose than to make you better equipped for that service, and I know that you will gain all you can from it.

"We have many visitors here today from Fire Departments in our state. To them I extend a hearty welcome and hope that they will take back to their native cities and towns some profit from their attendance here."

The Faculty of the College

The faculty of the Boston Fire College consists of Chief Henry A. Fox, Assistant Chief Henry J. Power, Deputy Chief Albert J. Caulfield, of the Fire Prevention Division; Deputy Chief John J. Kelley, District Chief Charles A. Donohoe, District Chief Samuel J. Pope, Supt. George L. Fickett, of the Fire Alarm Division; Edward E. Williamson, Superintendent of Maintenance; Walter J. Burke, Superintendent of the Wire Division; and Lieut. John J. Creehan, Drill Master.

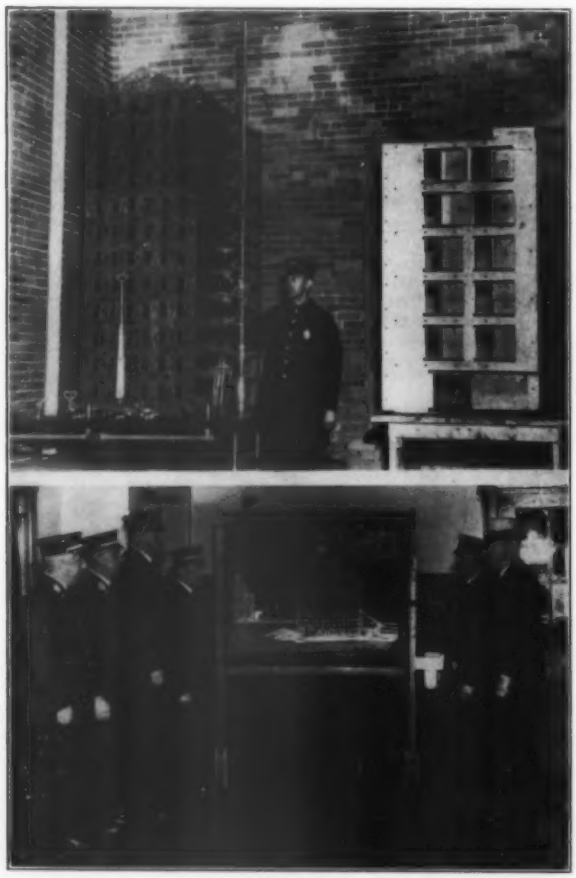
The Opening Session

The opening session was held on November 30 in the headquarters of Engine Companies 26 and 35 on Broadway, the large smoking room on the top floor being fitted up as a class room and equipped with blackboards,

model buildings, etc. There were addresses by Fire Commissioner Edward F. McLaughlin, Chief Henry A. Fox, and Assistant Chief Henry J. Power, Chairman of the Board of Control of the college. The first lecture was on "Morale, Discipline, and Military Tactics" by District Chief Charles A. Donohoe.

Chief Fox, in his talk, impressed on the class that the Boston Fire Department today wants men of knowledge in its ranks and, unlike the days when he was in the ranks, the chief officers are now ready and willing to give this knowledge to the men with lesser experience. In the old days, he said, the chief officers, if they had any knowledge, kept it to themselves and made no effort to assist the men under them, leaving their subordinates to grasp what they could from actual experiences at fires. He said that today every officer and man in the Boston Fire Department must be a part of a single machine with every unit of this machine working together. He stressed the value of fire prevention and said that every officer and man doing inspection work must have a knowledge of what constitutes a hazard and the proper method of removing it. He pointed out that the inspector who is able to explain the reasons for his orders will create a better feeling for the department with the general public.

The forty officers of the Boston Fire Department detailed for the first class in the college ranked from Lieutenant to Deputy Chief.



Upper—The Model Building (Left) and Smoke House (Right) Used in Demonstrations in the Boston Fire College. Lower—A Blackboard Demonstration by Chief Williamson, at the College

Out of Town Officers Attending College

The officers in attendance from other cities were Deputy Chief Frank L. Taylor and Deputy Chief John Murphy, of Brockton; Captain John A. Connor of Weymouth; Lieutenant James J. McCarthy, of Weymouth; Lieutenant John J. Lunney and Lieutenant Lewis J. Larkin, of Somerville; Captain George A. Campbell, of Lowell; Captain Humphrey H. Sheehan, of Everett; Lieutenant James R. Conners, of Everett; Captain George J. Porter and Lieutenant Harold S. Jackson, of Revere; and Captain Herman E. Gutheim and Lieutenant Edward J. Griffin, of Cambridge.

The college year will be divided into two terms. The first class will comprise all chief officers, captains, and lieutenants in the department and will continue until all the officers have attended the course. The second class will include all the privates in the department. The classes will be in session from 9:30 a.m. until 12 noon. Large fires or emergencies may cause the session to be suspended.

Lectures of the Course

The course will consist of 27 lectures to be given by the Chiefs and other officials of the department on subjects dealing with modern methods of fire fighting. Lectures will also be given on building inspection and construction, proper handling of department records and economy of upkeep of company quarters. The passing grade will be 70 per cent and a Fire College diploma will be awarded to all who attain this mark.

There will be lecturers from the public utility companies, the electric light company, the gas company, insurance companies, the National Board of Fire Underwriters, the National Fire Protection Association, the Water Department, the Building Department, and the Law Department of the city. There will be lectures on the fire alarm system and on the high pressure pumping stations. Another lecture will take up fire boats and waterfront hazards.

Models of skyscrapers and other buildings built to scale are used to illustrate points in the lectures. There is also a miniature water tower with deck guns which actually operate to show stream penetration.

List of Subjects and Lectures

The following is the complete list of subjects and lecturers:

Lecture No. 1

Administration, by Fire Commissioner Edward F. McLaughlin.
Object of the Fire College, by Chief Henry A. Fox.
Morale, Discipline, and Military Tactics, by District Chief C. A. Donohoe.

Lecture No. 2

Apparatus, Tools, and Appliances—Supt. of Maintenance Edward E. Williamson, Deputy Chief Thomas H. Downey, Captain John Sheehan, Lieutenant John J. Creehan, Department Drill Master, W. C. Bailey, Supt. of High Pressure System.

(*Continued on page 73*)

When Is Arson Testimony Valid?

By LEO T. PARKER, Attorney-at-Law

MANY years ago, at common law, arson was the wilful and malicious burning of the dwelling house of another. It, also, included any building or outhouse within the curtilage of the dwelling house appurtenant thereto. It was an offense against the security of the habitation and had reference to the possession rather than the property. For this reason, the crime of arson was a felony of great enormity, and was punishable by death.

However, it is important to know that statutes in many states have materially changed the common law definition of arson and apply it to the burning of all species of real and personal property. Such statutes are designed for the protection of the property, as well as the security of the habitation.

In the absence of a statute defining and punishing arson, the common law definition always is relied on. For example, an incomplete or unfinished structure which has never been occupied for that purpose is not a dwelling house in the common law acceptation of the crime of arson.

For these reasons, under the old common law, a person who intentionally set fire to an unoccupied or incomplete building was not guilty of committing the crime of arson. Moreover, under modern laws a person, although guilty of arson, often may escape punishment under mere technicalities. Therefore, arson statutes should be formulated in view of avoiding all irregularities, particularly indefiniteness.

For instance, a state statute which defines punishment of a person convicted of committing the crime of arson may be invalid if the title and body of the law are improperly connected and deal with different subject matter. A late higher Court case involving this point of the law is Williams vs. State, 132 So. 186.

In this case it was shown that a state law read as follows:

"An Act to Define and Punish Arson. . . . Any person who wilfully or maliciously sets fire to or burns or causes to be burned or who aids, counsels, or procures the burning of any barn, stable or other building, the property of himself or of another, not a parcel of a dwelling house; or any shop, storehouse, warehouse, factory, mill or other building, the property of himself or of another; or any church, meeting house, court house, work house, school, jail, and other public building or any public bridge; shall, upon conviction thereof, be sentenced to the penitentiary not more than ten years."

A person was convicted in the lower Court of violating this statute because it was positively proved that he had set fire to an incomplete or partly constructed dwelling. He appealed to the higher Court to reverse this decision on the grounds that the law was indefinite and, therefore, invalid. It is important to know that the higher Court reversed the lower Court's conviction and, in holding the law invalid, said:

"The act defines and punishes a crime other than arson as known to the common law; yet we will search in vain for any provision making any of these crimes arson or punishable as such. . . . The title and body of the act were inconsistent and deceptive, dealt with a different subject matter which was not properly connected and was therefore repugnant to section 16 of article 3 of the Constitution. . . . The information on which defendant was convicted was predicated on section 2 of chapter 11812, Acts of 1927, and, there being no other provision of law on which it can be supported, it must also fall."

Subjects Treated in This Article

Common Law Definition of Arson Changed in Some States

Indefiniteness Should Be Avoided in Statutes

Fire Resulting from Illegal Act Not Necessarily Arson

Distinction Between Ordinary and Expert Testimony

Payment for Expert Testimony

Who Is the Best Witness?

Relation of Testimony of Accomplice

Fire Resulting from Illegal Act

Another important point of the established law is that a person who is accused of committing the crime of arson may not be guilty of this particular crime, although he may have been performing an illegal act when he started a fire. In other words, in order for a person to be guilty of committing the crime of arson it must be proved beyond a reasonable doubt that he "purposely and maliciously" set fire to a building.

For illustration, in Jones vs. Commonwealth, 38 S. W. (2d) 971, it was disclosed that a dwelling had been converted into a storehouse. One night it caught fire and burned.

A person named Jones was arrested and accused of committing the crime. Jones admitted that he burned the building, but contended that it was done accidentally. He admitted and testified that he was illegally searching for whisky among stored goods and when he lighted a match it accidentally caught fire to some inflammable merchandise.

The lower Court rendered a verdict holding Jones guilty of committing the crime of arson. However, notwithstanding his admission, it is interesting to observe that the higher Court, after considering all phases of the testimony, reversed this verdict, saying:

"We are of the opinion that appellant (Jones) under the facts of this case was entitled to an instruction on 'accidental burning.' . . . The fact of appellant's illegal searching for the whisky may lead the ordinary layman to a confusion of ideas as to the words 'unlawful, wilful and malicious' . . . and hence we have reached the conclusion that, under the facts of this case, appellant should have the instruction on accidental burning which he claims."

Distinction Between Ordinary and Expert Testimony

While it is generally held that a dwelling house loses its character as a habitation when it ceases to be dwelt in, or is abandoned as a dwelling and closed up, or is converted into a place for other purposes than human occupancy, yet the temporary absence of its tenants will not take away from a house its character as a habitation

or dwelling house, provided the absence is not unreasonably prolonged and there is an intention to return.

Therefore, a person may be convicted under a valid statute, or under the old common law, of committing the crime of arson, where it is proved that he purposely set fire to a dwelling although the same is only temporarily unoccupied.

Another interesting feature of the well established law is that an ordinary or common witness will not be permitted by the Court to testify as to his conclusion or belief of who may have set fire to a building or to the cause of the conflagration. This is true because it is the duty of a jury to determine these facts after giving due consideration to all testimony.

On the other hand, an expert witness may testify as to his belief or conclusion and give his opinion whether a fire was of incendiary origin. This is so because an expert witness is recognized by the law as being sufficiently efficient and experienced in his profession or line of work, to which testimony relates, to justify a jury in basing its ultimate or final conclusion on such testimony.

For example, in the late case of Sawyer vs. State, 132 So. 188, it was disclosed, during the trial of a person convicted on the charge of arson, that the Chief of the municipal Fire Department testified that he believed the house had been set on fire by use of gasoline.

The testimony given by the Chief of the Fire Department was objected to by the counsel for the accused. However, the higher Court held such testimony admissible, and said:

"It is contended that the Court erred in permitting the Chief of the Fire Department to testify that in his opinion the house had been set on fire by the use of gasoline. There could be no objection to that part of the Chief's testimony as to the facts concerning the fire and the conditions he found in respect to the building, or what remained of it, after the fire, upon which he based his opinion. But ordinarily in an arson case a witness cannot testify as to his opinion that the fire was, or was not, of incendiary origin, that being a question for the jury to determine. . . . However, this witness was by his testimony qualified as an expert, and it has been held in several cases in other jurisdictions that an expert can testify to his opinion as to the cause of an explosion."

Who is Best Witness?

The majority of persons believe a good witness to be one who is capable of giving testimony in favor of one or the other of the litigants. However, all Courts have consistently held that the best witness is a person who gives truthful testimony and who cannot be confused during the cross-examination nor induced by lawyers to give answers which may lead the jury to believe other than the exact truth.

In order to avoid confusion during cross-examination it is necessary that the witness answers each question only after being certain that the exact meaning of the question is clearly understood. Obviously, irrespective of acts, language, or facial expressions of the cross-examining lawyer the witness should maintain a calm and indifferent attitude.

It is certain that a hostile witness is prejudicial to the litigant for whom he apparently is in favor, and frequently such testimony is insufficient to convince a jury.

Payment for Expert Testimony

While an ordinary witness is restricted by the Courts to giving commonplace testimony regarding the actual facts which he knows are true, yet an expert witness is permitted to give his conclusions or state that which he believes is true. Moreover, for rendering expert testimony a member of a municipal Fire Department may demand and receive special or extra compensation, greatly in excess of that received by an ordinary witness.

On the other hand, an official or member of a municipal Fire Department who is subpoenaed to appear as an ordinary witness and does not give expert testimony cannot recover for such services more compensation than specified in the laws which regulate payments to witnesses.

For this reason, it is well established that an agreement or contract to pay an ordinary witness more than the statutory fees in invalid, if the witness is within the jurisdiction of the Court. In other words, if the witness lives in the same city or county, where he is bound to comply with an order of a Court to appear as a witness, a contract wherein it is agreed that the witness shall receive extra payment is void. (41 A. L. R. 1322; 34 A. L. R. 1529; 196 N. W. 869; 124 N. Y. S. 478).

However, a contract is valid by the terms of which a person agrees to pay an expert, or other witness, extra compensation to appear as a witness, if such person is not within the jurisdiction of the Court. This is true providing he is not influenced by this payment to give testimony favorable to the firm or person who agrees to pay the extra compensation. (237 S. W. 141; 14 Johns (N. Y.) 357).

Obviously, a contract is valid by the terms of which a person agrees to pay a Fire Department official for expert testimony, whether or not the witness must necessarily prepare himself in some special manner to give the expert testimony. Usually an official, when subpoenaed to appear as an ordinary witness, may refuse to answer questions in the nature of expert testimony, unless additional payment is agreed upon. (2 A. L. R. 1526; 44 N. E. 141; 109 N. Y. S. 754).

These phases of the law were settled long ago, because if it were possible for all witnesses to receive extra payment in accordance with the actual value of their time and services, every witness and juror, whether ordinary or expert, would demand far greater compensation than the law provides.

Information pertaining to the established law on this

Headquarters for the New Orleans Salvage Corps

The Fire Insurance Patrol of New Orleans, La., has two fire stations, one in the mercantile district and one in the residential area. The corps was organized in 1874 and has been operating continuously ever since. All fire companies in the city subscribe to its maintenance. Edward Welch, who has been in the service since 1906, is Superintendent.

subject is admittedly valuable when it is considered that frequently, before agreeing to appear as a witness, a member of a municipal fire department, within the jurisdiction of the Court, may contract to accept extra payment from persons who desire witness' services, although the testimony to be given is ordinary. This results in the contract being invalid.

Since a contract is valid by which any person agrees to pay extra compensation to any witness for appearing as an ordinary witness, where such witness is not within the jurisdiction of the Court, the following form may be used:

"It is agreed that in consideration of (witness) appearing in Court at (city) on (date) to testify in the case of (name of litigants), I (name of person desiring services) agree to pay said (witness) all expenses incurred as a result of testifying in said Court, and in addition thereto the sum of $———— for each day or fraction thereof said (witness) (city) leaves his regular work. Dated ————, 19—, at ————, (state) ————.

(person desiring services) ————"

Testimony of Accomplice

It is settled law that a person cannot legally be convicted of arson on the sole testimony of an accomplice. However, if other and relevant testimony is introduced which convinces a jury that the accomplice's testimony is truthful then the person accused of the crime may be convicted.

For illustration, in —— vs. State, 177 N. E. 60, it was disclosed that a man named —— held a lease on a theatre building. During the first six months operation of the theatre he suffered a loss of over $40,000.

Evidence during the trial indicated that —— decided to destroy the theatre to avoid liability on the lease. The details of the destruction were disclosed by the testimony of an accomplice who testified that a party consisting of three persons and himself drove in an automobile to the theatre and at 1:30 a.m. performed the act which destroyed the theatre building. The destruction wrought the theatre building, both inside and out, was terrific, as shown by photographs displayed at the trial of —— who was arrested for having violated a state law entitled:

"An Act concerning the crime of arson and certain other crimes connected with the destruction or attempted destruction of property by fire. . . ."

In addition to the above mentioned testimony the accomplice testified that —— had paid him $1,000 to have the theatre destroyed. Also, there was testimony that on two different occasions —— had made statements indicating that he desired to have the building destroyed. There was also testimony that —— twice made an effort to have the night watchman at the theatre discharged.

The lower Court convicted —— of having committed the crime of arson. He appealed to the higher Court on the contention that the sole confession of an accomplice cannot be used to further a conviction. However, since the accomplice's testimony was convincing and also because other testimony supported this conclusion, the higher Court upheld the conviction, saying:

"At common law, and in this state, it is held that the testimony of an accomplice, if it satisfies the jury beyond a reasonable doubt of the guilt of a defendant, is sufficient to warrant a conviction, although it is not corroborated. . . . This conviction does not rest, as appellant contends, solely upon the testimony of the accomplice. The evidence introduced by the state, if believed, not only shows a motive for appellant's (——) entering the conspiracy, but it shows other facts tending to prove that he did enter it."

CORRESPONDENCE

Classification of Hydrants

To the Editor:

We note, under Questions and Answers, the article "Painting Fire Hydrants." We believe that this is an important subject of interest to every Water Department and Fire Department in the country, and we thought it might be of interest to your magazine to know what has been done along this line in Maine.

We have in Maine, the Maine Water Utilities Association, which is made up of officials of water companies and water districts throughout the state. In 1929 this association appointed a committee on classification and marking of fire hydrants. This committee made an exhaustive study of the subject referred to them, held several conferences with Fire Chiefs and representatives of the New England Insurance Exchange, and made a report for the consideration of the association in June 1929. This report was adopted at a meeting of the association in October 1929, and was as follows.

There should be three groups of hydrants designated as class A, class B and class C.

Class A group should be fire hydrants which have sufficient capacity to supply one or more pumpers with 1,000 gallons per minute or more with a residual pressure of not less than 10 lbs.

Class B group should be fire hydrants which have sufficient capacity to supply pumpers with not less than 500 gallons per minute with a residual pressure of 10 lbs.

Class C group should have insufficient capacity to supply pumpers with 500 gallons per minute with a residual pressure of 10 lbs.

Class A group should be designated with green tops and nozzle caps.

Class B group should be designated with orange tops and caps, and Class C group should be designated with red tops and caps, and the body of the hydrant to be of chrome yellow.

The main idea of the coloring of the tops and caps was in the same order as traffic lights and signals, green indicates good, orange to use caution, and red as dangerous or limited.

It can be readily seen from this arrangement when a Fire Department becomes familiar with the colors it can tell at a glance whether or not it will receive sufficient supply from that particular hydrant to cover their needs.

A number of the water companies and water districts in Maine have adopted this marked plan.

Before a hydrant can be marked it is necessary that the Water Department make a flow test of that hydrant in order to give it its proper marking. This is of great value to the Water Department, and the Fire Department is assured of the supply according to the markings.

This system where it is in use has worked out to the advantage of all departments concerned.

Very truly yours,
J. W. RANDLETTE,
Water Superintendent, Richmond, Me.

1931 Fire Losses Show a Decrease

According to annual fire losses figures published by the National Board of Fire Underwriters, the fire losses in the United States for 1931 decreased $11,600,000 over the totals for 1930. The summation for 1930 is $463,621,762 and for 1931, $452,017,026.

Only three fires during 1931 could be regarded as of conflagration proportions. On June 7, sixty buildings, adjacent to the waterfront were destroyed in Norfolk, Va., with a $1,000,000 loss. On June 27, at Spencer, Ia., a boy dropped a lighted sparkler in a fireworks display in a drug store, and as a result twenty-five buildings were destroyed and ten were damaged. The estimated loss was $800,000. On November 26, a conflagration at Hopewell, Pa., destroyed thirty-one buildings with a loss of $250,000. There was no local fire protection, and due to the burning of a bridge, outside companies that responded had to make a fourteen-mile detour to reach the fire.

Fire that broke out in the armory, Buffalo, N. Y., started thirty roof fires as the result of flying brands and resulted in the destruction of a church. The total loss was $5,000,000. The loss at a lumber mill in Menominee, Mich., was $1,000,000, of a ship under construction at Newport News, Va., $2,000,000, and railroad shops in Altoona, Pa., $1,500,000.

The Volunteer Fire Department

By N. N. WOLPERT,
Assistant Editor, Fire Engineering

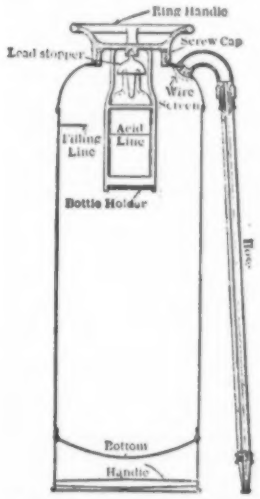
A Series of Articles on Volunteer Fire Department Administration and Operation

The Operation of Portable Fire Extinguishers

The following article, the eighteenth of a series, describes the various types of portable fire extinguishers that may be found in the station of a Volunteer Fire Department, and it explains some of the limitations of the various types.

PERHAPS, it can be said that the basis of all portable types of fire extinguishers is the crude but effective pail full of water which is thrown at a fire. However, in an arrangement of this character, it is impossible to have a steady stream of water at the base of a fire, if even for a few minutes.

To provide a steady stream of water, a strong container was substituted, and to furnish the necessary pressure for delivering the water in an effective stream, the use of a well known chemical reaction was employed. Soda was added to the water, and a device made which would permit the mixing of a small amount of acid in the soda charged water. The acid reacted with the soda and released a large amount of carbon dioxide gas which in order to escape from the container forced the water through the short length of chemical hose.



Cross Section of a Soda and Acid Extinguisher

Soda and acid extinguishers are, without doubt, the most commonly employed of all the hand extinguishers. They are effective on all ordinary fires but they are not suitable for electric or oil fires.

There are numerous designs of soda and acid extinguishers. The two types most commonly employed are the Babcock type and the loose stopple type of extinguisher. One should bear in mind that the carbon dioxide gas generated in the soda and acid type of extinguisher, adds but little, if anything, to the efficiency of the stream. It is used merely as a motivating power for forcing the water out of the extinguisher. When the extinguisher is inverted, the gas rises through the solution to the top and remains there acting as a pushing agency to force the solution out through an opening at the base.

Various makes of soda and acid extinguishers employ slightly fluctuating quantities of soda and acid in the charges. The extinguisher described employs a soda and water solution made up of 1½ pounds of bicarbonate of soda dissolved in water filled up to the level mark of the 2½-gallon extinguisher. The acid used is filled up to the mark on the bottle—about eight ounces of sulphuric acid. The pressure generated by the reaction of the chemicals in the extinguisher usually reaches 125 pounds. This is considered the maximum pressure generated in a soda and acid extinguisher.

This extinguisher is used for ordinary fires and is quite effective on incipient fires. The stream is directed at the burning material and stops the fire by cooling and quenching. In using the soda and acid extinguisher, care must be observed in keeping the stream away from charged electrical appliances of high voltage. The soda and acid stream is a good conductor of electricity and a severe shock may be experienced by the operator of the extinguisher if the stream should strike parts charged with high voltage. These extinguishers, too, are not very effective on burning oil or inflammable liquids. While the soda and acid type may be successful, at some fires of this nature, it is not considered the proper extinguisher for this class of fires.

The chief mechanical difference between this extinguisher and the loose stopple type is the method of bringing the acid and the soda solution together. In the Babcock extinguisher, a stem projects through the head of the extinguisher and terminates in a small hand wheel. Screwing this stem down puts a pressure on the acid bottle which causes the bottle to burst thereby spreading the acid which instantly mixes with the soda and water solution. The Babcock extinguisher is not inverted as is the loose stoppled type, when it is necessary to use it at a fire. It is held in its normal position with the head upward at all times.

What was stated regarding the charge for loose stopple extinguishers applies equally well for the Babcock type with the exception that where the Babcock has greater capacity than the loose stopple, greater amounts of soda and acid must be employed. The usual rate is to allow one-fifth pound of acid for each gallon of solution in the extinguisher.

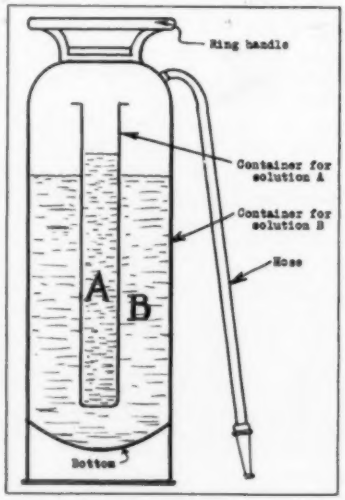
Proportion of Chemicals

For making the soda solution, three-fifths of a pound of soda is usually employed for each gallon of water. Thus in a 6-gallon Babcock extinguisher 3/5 x 6 or 3 3/5 pounds of soda would be employed and 1 1/5 pounds of commercial sulphuric acid. Both commercial bicarbonate of soda and commercial sulphuric acid are used in making up the charges.

Soda and acid extinguishers should be carried to the fire by means of the top handle. When used they must be operated in accordance with instructions which are displayed prominently on the extinguisher. When the soda solution and the acid mix as a result of the above operation, pressure is created within the container which expells the solution through the hose. While the stream is most effective when it is used close to the fire, in case of necessity it can be directed effectively from a distance of thirty to forty feet.

The Babcock type of extinguisher is largely employed for Fire Department operation as it is more satisfactory than the loose stopple type when transported on fire apparatus. With the loose stopple type, there is always a chance of the stopple being jarred out, and some of the acid leaking into the soda solution, partly or completely neutralizing the soda solution so that the extinguisher might thereby become inoperative.

The loose stopple type is almost invariably used where it is to be employed by inexperienced hands, or the public in general.



Operation of a Foam Type of Fire Extinguisher

There are several types of one quart carbon tetrachloride fire extinguishers on the market, each of which possesses peculiar operating mechanism. The methods of operating all of them, however, are in a general way very much similar. A pump handle is operated to provide the necessary pressure for forcing out the fluid from the container.

Due to the nature of the gas which is given off when the liquid strikes heated objects, these extinguishers should not be used in confined spaces where there is no ventilation. Carbon tetrachloride extinguishers produce their extinguishing effect on fires by blanketing the burning material with a gas which will not support combustion.

If a carbon tetrachloride extinguisher is used where a strong breeze is blowing, its effectiveness is very much diminished. The chief use of the carbon tetrachloride extinguisher is in connection with electric fires for the liquid is a non-conductor of electricity and is therefore safe to use on charged electrical apparatus. It is also finding a wide use in connection with automobile fires and where small quantities of inflammable volatiles are present, such as in small machine shops, small garages, etc.

Carbon Tetrachloride Type

Due to the light weight of these extinguishers and their ease of operation, they are considered among the best of first aid appliances for oil or gasoline fires and are carried on motor cars and motor boats very extensively.

In operating the quart carbon tetrachloride extinguisher, the discharge from the extinguisher should be made to strike the fire or heated objects. The stream is directed from the windward side. This position, in working on a fire, prevents the operator from suffering from the pungent fumes which are given off by the liquid upon being vaporized. It also causes the vapors to pass across the fire and produce maximum effect.

The only types of fire on which carbon tetrachloride extinguishers are ineffective are metallic powder fires such as powdered aluminum. At metal fires, these extinguishers really do more harm than good, as the gases given off combine readily with metal which is being oxidized, and increases the intensity of the fire.

For large electrical fires, one gallon carbon tetrachloride extinguishers are commonly used. It is much more effective than the quart type on fires in electric cranes or at other places where it is necessary to apply the extinguishing agent for some time while the heated objects cool off.

As an example, consider a large electric motor. In the event of a short circuit, the flow of current through the windings may cause the insulation to take fire. A dash of water or the use of one of these extinguishers would temporarily kill the fire but the heat of the windings within the installation would be sufficient to cause re-ignition. In such a case, it is necessary to keep the fire extinguished while the heated metal parts of the motor or electric apparatus cool down to a point below the ignition point of the insulation.

Carbon Tetrachloride Extinguisher

In the one gallon type of carbon tetrachloride, air pressure is created by means of an air pump to force the liquid through the discharge port. Due to the fact that a good pressure can be built up within the extinguisher before the nozzle is opened, the extinguisher is provided with a gauge for observing the rise of pressure when operating the hand pump.

In the frost proof extinguisher of the cartridge type, a slow burning safety fuse is ignited inside an inner chamber and as a result of this combustion, pressure is created within the container which expels the solution through the hose. The solution usually consists of granulated calcium chloride (free from magnesium chloride) mixed with water in definite proportions. The function of the calcium chloride is to lower the freezing point so that the extinguisher will not freeze when placed in exposed locations.

The following table gives the approximate freezing temperature in degrees Fahrenheit for various mixtures of calcium chloride in water.

Approximate Freezing Temperature Degrees F.	to make 2½ gallons anti-freezing solution		
	Water	Calcium Chloride	Specific Gravity
10 degrees	2 gals. 1 qt.	5 lbs.	1.139
Zero	2 gals. 1 qt.	6¼ lbs.	1.175
10 degrees below	2 gals.	7 lbs.	1.205
20 degrees below	2 gals.	8 lbs.	1.228
30 degrees below	2 gals.	9 lbs.	1.246
40 degrees below	2 gals.	10 lbs.	1.263

NOTE: This table is based on 75 per cent granulated calcium chloride.

In the carbon dioxide cartridge type of frost proof extinguisher, a steel cartridge containing liquid carbon dioxide is supported at the top of the extinguishing cylinder. The solution used in this extinguisher is the same as that used in the safety fuse type—that is a calcium chloride solution.

To operate this extinguisher, a plunger projecting through the head is driven down and a point at the lower extremity of the plunger pierces a thin metallic disc at the top of the steel cartridge and this releases the carbon dioxide gas. The gas expands producing a cushion of gas at high pressure over the solution. This compressed gas forces the solution out through the discharge port.

The solution in this extinguisher, as in the other types of frost proof extinguishers, is of such concentration as to protect against freezing down to temperatures as low as forty degrees below zero. Approximately five pounds of calcium chloride is employed for each gallon of water.

In the Protex type of frost proof extinguisher, two non-freezing solutions are kept in a double container at the top of the extinguisher, and the liquids are brought together by inverting the extinguisher. When the solutions mix, even at low temperatures, carbon dioxide gas is produced to expel the solution. The only moving part in this extinguisher is a porcelain stopple which prevents the two solutions from mixing until the extinguisher is inverted.

Carbon Dioxide Extinguisher

The carbon dioxide extinguisher is one of the more recent developments in this field. At the present time it is manufactured in various sizes from seven pounds up to the type that is mounted on wheels. The seven pound rating refers to the weight of carbon dioxide within the cylinder and the weight does not include that of the container or the carriage. The extinguisher is fitted with a long funnel shaped nozzle.

Carbon Dioxide Model

To operate this extinguisher, the valve at the top of the extinguisher is opened so that the highly compressed gas in the cylinder is discharged through the hose and the funnel type nozzle. The gas within the cylinder is compressed to 700 or 800 pounds per square inch. Upon the discharge of the gas to the atmosphere, carbon dioxide snow is delivered together with free gas. The snow has an intense cold temperature. The carbon dioxide gas, being a non-supporter of combustion, smothers the fire while the snow, alighting upon the burning material, tends to cool the materials down to a point which will prevent the re-ignition of the materials.

This type of extinguisher is particularly effective upon alcohol, carbon disulphide and similar fires on which foam is comparatively ineffective. Due to the fact that the carbon dioxide gas and snow contain no moisture whatsoever, the extinguisher is valuable for use around electrical machinery, switchboards and other equipment where the water would cause serious damage.

Foam is the result of the mixing of two solutions. It can be applied on a fire by means of foam fire pails which have a total capacity of fourteen quarts, although the liquids total twelve quarts. Foam producing agents are dissolved in water for the outer chamber, and aluminum sulphate is dis-

solved in water for the inner chamber. Foam pails are carried to the fire before the cover is removed, and the contents of the pail is thrown or poured on the fire. When the two solutions mix, foam is produced. While the liquid is most effective when directed from a distance of about ten or five feet, it may be used close to a fire.

The foam type of fire extinguisher, like the foam fire pail, is particularly effective on oil, gasoline, naptha, benzol, grease, tar, paint and other highly inflammable volatile substances—in other words at fires which would be increased or spread by water.

The most commonly found size of foam extinguisher is 2½ gallons. In outward appearance it resembles the 2½-gallon soda and acid extinguisher, and it is operated in precisely the same manner by inverting the extinguisher.

The character of the stream and the method of using it to attack the fire are entirely different from the soda and acid type. The foam extinguisher produces about twenty gallons of foam which is spread over the burning surface to cut off the supply of oxygen and thereby extinguish the fire. Where the foam is of the proper consistency, it remains intact for quite a while, permitting materials which have been burning to cool down to a point below re-ignition before the foam disintegrates. The foam produced by the foam extinguisher consists of minute bubbles filled with carbon dioxide gas.

Foam Fire Extinguisher

The foam extinguisher is made up of an outside cylinder and inside, another cylinder which extends almost the full height of the extinguisher. The inner chamber or cylinder contains a solution of aluminum sulphate and the outer chamber a solution of bicarbonate of soda, and a foam producing agent. By inverting the extinguisher, the two solutions are brought together forming the foam which is of so much greater volume than the volume of the extinguisher that it forces itself out through the hose and nozzle.

While the stream is usually most effective when directed from a distance, it may be used close to the fire. It can be directed with good results from distances as great as thirty to forty feet.

Foam fire extinguishers are not effective on alcohol, carbon disulphide or similar fires where the area of the burning liquid is greater than three square feet. Even with liquid fires of this small area, it is often difficult to bring an alcohol or carbon disulphide fire under control by the use of foam extinguishers. Foam dissolves in the substances mentioned and it is impossible to build up a blanket which will smother the fire. Where the foam dissolves, the only extinguishing effect is produced by the amount of carbon dioxide gas within the foam bubbles.

Pump type extinguishers are made in 2½ or 5-gallon sizes. The extinguishing agent used is water or an anti-freezing solution consisting of granulated chloride dissolved in water. The density of the solution depends upon the lowest temperature to which the extinguisher is likely to be exposed. The extinguisher is carried to the fire and the pump handle is operated to force the water out of the tank on to the fire.

At the present time, there is no ingredient which, when added to the contents of a 2½-gallon extinguisher of either the soda acid or the foam type, will produce a non-freezing combination and at the same time will allow the device to function properly. Extinguishers have frequently been rendered inoperative by adding a chemical to them intended to lower the freezing point. There are fatalities on record where fire extinguishers have burst due to the corrosion started by this treatment.

Depressing the Freezing Point

One of the frequently used materials for lowering the freezing point of solutions is common salt. Because a regular charge of bicarbonate of soda produces a solution which is very close to the saturation point at ordinary temperatures, the addition of the more soluble chloride (common salt) precipitates the bicarbonate of soda. This precipitate, after standing, is liable to foam into a compact mass and when the extinguisher is operated, the precipitate may readily pass into the outlet elbow and stop the flow of the liquid. The presence of salt also has a tendency to corrode the extinguisher and in that way weaken the shell or outside wall. Another objection to the use of salt is its inability to depress the freezing point of the solution appreciably below zero degrees Fahrenheit and the tendency for the salt to creep and crystallize over the container.

Calcium chloride, which is common to the non-freeze type of extinguishers, is another ingredient that is used for depressing the freezing point of chemical extinguisher solutions. This material is unsuitable for the soda and acid type because it neutralizes the action of the other chemicals used. Unless the calcium chloride is of a pure grade, it may attack the solder used in the extinguisher.

Alcohol and glycerine, as well as ammonium nitrate and ammonium chloride, have been used from time to time but they have resulted in very serious deterioration of the charge in the extinguisher.

Even though an ingredient does depress the freezing point of the soda solution, the fact still remains that most extinguishers will not operate best at low temperatures because of the sluggish chemical reaction caused by the low temperatures. The ingredient for depressing the freezing point of the soda solution has no effect on the acid which, under certain conditions, may freeze at or near the freezing point of water.

The soda solution in both soda-acid and foam type extinguishers will freeze at about 29° F. The acid usually used in soda-acid extinguishers has a strength of 66° Baume which freezes at about 29° below zero Fahrenheit. However, a small amount of moisture absorbed by the acid may cause it to freeze at a point higher than that of water, for at 64° Baume, it freezes at 46.6° above zero Fahrenheit. The aluminum sulphate solution of foam type extinguishers freezes at about 8° above zero, Fahrenheit.

Soda-acid and foam extinguishers located where continued temperatures lower than 40° above zero Fahrenheit are encountered, should be placed in a tightly made wooden cabinet.

A sufficiently large electric lamp should be installed in the base of this cabinet behind a red glass window fitted at the bottom of the door. The lighted lamp serves to keep the extinguisher warm and also is a means of locating the extinguisher at night.

Where it is not practical to install extinguishers in frostproof cabinets, as in many outdoor or unheated indoor risks, and where highly inflammable liquids, greases, etc., are not involved, the non-freeze type which operates to temperatures as low as 40° below zero, should be used. These extinguishers require no special care and are operated the same as ordinary extinguishers.

The use of dry powder extinguishers that have been on the market for the past twenty-five years, is not encouraged as the powder is inferior to water and chemicals as a means of extinguishing fire. The powder that is commonly used is composed of about 85% bicarbonate of soda and 15% iron oxide, silica, starch, Fuller's earth and Venetian red. Yellow ochre is added to prevent caking. However, the powder will cake in damp places and it may lose its strength.

Recently a type of powder has appeared on the market, which when thrown on a fire, releases a gas that will not support combustion.

Chief James 50 Years in Department

Chief Wallace T. James on January 18 completed fifty years service in the Fire Department of Hamilton, Ont., Canada.

He joined the department in 1882 and in four years was promoted to Captain. In 1897 he was advanced to Second Assistant Chief, First Assistant Chief in 1905 and Chief in 1923.

Fire Prevention has always been his hobby, and last year he succeeded in winning first place in a fire prevention contest conducted by the Dominion Chambers of Commerce for cities of over 100,000 population. The prize was a silver cup.

At present he is working on a decentralization plan for the Fire Department. When one more small station will be erected, the plan will be completed and the large central station will be replaced by the scattered small stations in various points of the city.

Chief Wallace T. James

The department consists of 204 men, twenty-pieces of motor equipment and fourteen fire stations.

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

MEASURES FOR CONTROLLING DRY CLEANING IN HOMES

WITH the more general use of light colors for dresses and garments, there has resulted a greater need for dry cleaning. As it is generally known that gasoline or naphtha will remove the dirt that soap and water will not, and at the same time will not shrink the fabric, the use of dry cleaning in the home has become quite general.

The problem has been made acute by the number of devices now on the market for "safely" cleaning garments in the home. Some mixture of carbon tetrachloride is supplied with the machine, but when the original amount of liquid is used up, there is a tendency to shift back to gasoline, and the same old problem is created.

Much has been done to educate the housewife to the dangers that may result from using such volatile liquids in the home. To better drive home this lesson, articles have appeared in local newspapers, talks have been given to civic clubs and schools, and the radio has been employed.

The problem in full that is treated in this issue, appears in the box on this page. In the box on the following page is the question that will be treated in the next issue. Should you have some comments that you would like to add to the next discussion, write to the "Round Table Editor," FIRE ENGINEERING, 24 W. 40th Street, New York, N. Y.

HERE IS THE PROBLEM

What regulations have you for controlling dry cleaning in the home?

What program do you follow to educate women in the danger resulting from the use of gasoline and naphtha?

How has the State Fire Marshal cooperated with you in this respect?

Discussion of the Question

Many municipalities do not have regulations governing dry cleaning in the home, even though chiefs appreciate the dangers that may result from gasoline in residences. The replies received follow:

John Reid, Fire Marshal, Seattle, Wash.: Our fire hazard ordinance prohibits the sale of any flammable liquid intended for household use of any kind, which has a flashpoint below 90° Fahrenheit. This regulation is enforced against drug stores, gasoline service stations, hardware stores, paint and oil stores, etc., and wholesale establishments dealing in flammable liquids, chemicals and drugs. Warning circulars are sent from time to time and stocks are checked.

Flammable liquids, cleaning solvents, etc., intended for household use, must have warning labels of their flammability on the container.

It is unlawful for any dispenser of flammable liquids to sell gasoline, benzine, etc., in a quantity exceeding one gallon unless the purchaser produces a permit from the Fire Marshal and uses an approved safety container for such liquids. Dispensers, particularly gasoline service stations, cooperate fully in this matter.

Use of volatile flammable liquids (100° Fahrenheit or less) for cleaning purposes in an open vessel is prohibited, except in dry cleaning establishments. Spotting, etc., in homes and elsewhere must be done from an approved safety can.

Not more than one quart of a volatile flammable liquid (100° Fahrenheit or less flash), may be used for domestic cleaning purposes: (Note above that it is unlawful to sell for such purpose a volatile flammable liquid with a flashpoint below 90° Fahrenheit).

By newspaper publicity, addresses and lectures before civic clubs, Parent-Teacher associations and other womens' clubs, the women in our city are educated in the dangers of the home use of flammable liquids for cleaning purposes. We send circulars to the homes and to dispensers of flammable liquids.

P. J. Boyne, Chief, Bureau of Fire Prevention, Denver, Col.: Unfortunately, we have no regulations prohibiting the use of gasoline and naphtha for home cleaning purposes, but the activity is somewhat curtailed by our requirements governing the storage and handling of gasoline which provides that no more than five gallons of liquids of Class I shall be kept above ground and wherever such storage is concerned same shall be in Underwriters' approved containers (safety cans).

The women of our city are warned and educated in the hazards of the use of gasoline and naphtha in the home for cleaning by newspaper publicity, fire prevention campaigns, radio talks, public school programs, etc.

Peter Steinkellner, Chief, Milwaukee, Wis.: We have no ordinance of any kind dealing with the control of dry cleaning in the homes with the exception that combustible liquids within the city limits of Milwaukee must be kept in safety cans not to exceed five gallons capacity.

Our Fire Prevention Bureau conducts educational programs through the medium of talks given at all schools and meetings of civic associations throughout the year, and in this way the public is warned of the dangers of the use of flammable liquids for home dry cleaning purposes.

The State Fire Marshal's office and also the Industrial Commission issue monthly bulletins pertaining to fire hazards of every description and in this way cooperate with us.

J. J. Blackstone, Chief, Burkburnett, Tex.: We have no regulation by law on dry cleaning in the home. We advise that all dry cleaning be done outside the home. We try to handle this through the schools, preferably through our Junior High and Grade Schools. We have had very good cooperation from our State Fire Insurance Commission on this type of thing.

Richard L. Smith, Chief, Pittsburgh, Pa.: Our "Explosive and Combustible Regulations" deny the right of dry cleaning in homes or dwellings but due to the extensive advertising and sale the last year or two of cheap dry cleaning machines to be used in the homes, in which a

supposedly safe cleaning fluid with a carbon tetrachloride base is used or recommended, we are facing one of the greatest dangers the homes have ever been subjected to.

The cost of this "safe" cleaning fluid, being greater than gasoline or naphtha, and being more difficult to purchase, what will be the natural reaction of the owners of these machines? They will take a chance and use the cheapest and most easily obtained fluid and that will be gasoline or naphtha obtained from the nearest filling station. Under these conditions, it will certainly be some job to regulate dry cleaning in the homes.

As I understand it, the sale of these machines is increasing and the problem will soon be a national one. Even in the face of the sales argument used by the manufacturers that only "safe" cleaning fluid is to be used, the machine is dangerous as the individual cannot be watched.

At all meetings of civic organizations where firemen speak, at women's clubs and by means of a house to house canvass by uniformed men, we attempt to tell of the dangers resulting from the use of gasoline and naphtha. We also employ the radio and newspapers for this educational work.

The State Marshal is mostly concerned with cities or communities other than first and second class.

John J. Eber, Assistant Inspector, Newark, N. J.: The Fire Code of the city controls the use of dry cleaning in homes and elsewhere. No dry cleaning is allowed unless a permit is secured from the Inspector of the Bureau of Combustibles and Fire Risks. Such buildings must comply with our fire code. As far as controlling the use of dry cleaning in private homes, when the Bureau receives complaints of any private homes using benzine or naptha for dry cleaning, we immediately send an inspector to investigate. If we find dry cleaning being done, we serve a violation notice on them for using combustible liquids for dry cleaning. By doing this, we have made great progress.

As you know, you can buy gasoline practically all over the city. It is very hard to find all places where gasoline, etc., is used for cleaning clothes. We find that people go to gasoline stations with cans and explain to the garage owner that they want it for their automobiles. We have instructed garage owners and other places where gasoline is sold, not to sell gasoline for cleaning clothes in the home.

As a means of educating the public, we use the public press and have pamphlets delivered to the home, especially during Fire Prevention Week. We also tell the school children of the dangers of cleaning clothes with gasoline in the home. We have no State Fire Marshal.

Harry M. Bird, Chief, Stoughton, Mass.: The problem of dry cleaning in homes has been a very serious one in some places. Our experience here has been very good. In the last six years we have had only one slight fire due to this cause.

An occasional item inserted in the local newspapers calling attention of the general public to the explosion hazard has served to combat the dangers.

The State Fire Marshal also issues proclamations as to the dangers and in cases of violation of the volatile explosive laws, cooperates to the fullest extent.

Albert Herring, Chief, Murphysboro, Ill.: Our city has no established regulations covering dry cleaning in the homes. I give each school pupil in our city an inspection blank and ask them to make an investigation of their homes. On this blank they are asked where coal oil and gasoline is stored. I also have a printed card which is given to every home, stating ten causes of fire in the home. I also instruct the home residents in the use of cleaning fluids. We have had splendid results.

Whenever I call on the State Fire Marshal, I get his cooperation. If every Fire Chief in Illinois would write to the State Fire Prevention Association stating just what they are planning to do in the way of Fire Prevention, they will receive some wonderful help from that organization. I have worked with them year in and year out.

O. O. Ordway, Chief, Reading, Mass.: We have no regulations for controlling dry cleaning in the homes.

The only program we follow is to educate women in the danger resulting in its use and to lecture in the several high schools, especially in the Junior and Senior High Schools during Fire Prevention Week. If the fire prevention officers have any occasion to correct this hazard, they do so and instruct the person of the particular hazard involved.

We have had no occasion to ask the cooperation of the State Fire Marshal for this particular hazard.

J. H. Espey, Chief, Elmira, N. Y.: We have no regulations. We strive through occasional articles in our local newspapers, to stress the dangers of using gasoline and we have always included in the "Don'ts" that are printed on the back of fire alarm cards, a warning concerning the use of this dangerous fluid. We have no State Fire Marshal.

W. Coulter, Chief, Framingham, Mass.: We have no regulations for controlling dry cleaning in the homes.

However, we point out the great danger when using gasoline and we instruct the public in just what precautions they must take and use when handling gasoline.

The present State Fire Marshal is doing a great work along these lines and is cooperating with the heads of all Fire Departments to the best of his ability to make the handling of gasoline, etc., as safe as possible. It is a stupendous task to educate the public as they pay little or no attention to laws or regulations.

F. J. May, Chief, Mansfield, Ohio: We have no regulations whatever for they will clean their dresses in spite of what you do.

I try to educate women to appreciate the dangers of keeping gasoline and naphtha around the house. I impress on them that the cost of having the cleaning done by a regular cleaner is less than the risk they take with their lives and property. I talk to the children and have had good results.

I have very good cooperation from the office of the Fire Marshal. On a number of trips to schools, I have had the Assistant State Fire Marshal with me and he backed me up in all my talks. I believe that a Chief cannot talk too much about this subject.

Michael W. Lawton, Chief, Middletown, Conn.: We have no regulations or city ordinances for controlling this hazard. We have had several fires and some people have been burned quite badly as the result of dry cleaning in the home.

While no regular education program is followed, we give an occasional talk before Parents and Teachers meetings and sometimes have an article in local papers. We hear nothing from the State Fire Marshal in respect to this.

James Welsh, Chief, Eau Claire, Wis.: We have no regulations controlling dry cleaning in the home as a law would hardly be satisfactory.

In our fire prevention activities in the schools and elsewhere, particular stress is given to dry cleaning in the homes.

Peter Beckerle, Chief, Danbury, Conn.: We have no regulations controlling this situation. Through the local press we try to get the public to understand the danger of this practice and the risk they assume not only to themselves but as far as their property is concerned. We find that the women fail to understand the danger of using gasoline or naphtha in the home.

We have had no help from the State Fire Marshal in helping us to handle this problem.

Frederick S. Bullent, Chief, Rensselaer, N. Y.: There are no

HERE IS THE PROBLEM FOR THE NEXT ISSUE

What experience have your men had with leaking illuminating gas when entering a building on fire, insofar as asphyxiation is concerned?

To prevent the hazard of escaping gas, are you in favor of an automatic or manual gas shut-off or a similar device?

In the event that it is desirable, do you believe you can have your city pass such an ordinance?

If not, what do you consider the chief obstacles against its adoption?

specific rules or regulations pertaining to dry cleaning in private homes. We reach the public through lectures to civic organizations and through the schools. The State Fire Marshal has cooperated with the Fire Departments.

W. H. Fuller, Chief, Vicksburg, Miss.: We have no regulations or ordinances covering or controlling dry cleaning in the homes, but we do have a strict ordinance on plants that cater to the public. We do our best to make them comply with the rules. If something comes up where I fail to reach a satisfactory result with the owner of the building or the plant, I communicate with our rating bureau located at Jackson, Miss., and they send an engineer. If conditions are satisfactory, a permit is granted.

For educational work, we use our daily papers and warn the housekeepers to beware of dry cleaning devices that are sold and to be careful not to use gasoline as a substitute for the safe liquid in these devices.

I have never had an occasion to take a matter of this kind to the State Fire Marshal. However, any time that I call on him, he has cooperated with me and given his fullest services.

E. E. Bordnax, Chief, Seminole, Okla.: We do not have an ordinance covering cleaning in private homes. We discourage the use of gasoline and naphtha, by means of local newspapers and civic organizations. Our city ordinance has a strict ruling in reference to cleaning plants in the downtown area.

Our State Fire Marshal discourages the use of gasoline and naphtha for cleaning anywhere.

Samuel H. Jeffries, Chief, Wilkinsburg, Pa.: We have had a costly lesson concerning the use of gasoline. A banker's wife and girl were burned to death when they used gasoline to clean a few rugs. Residents of the Borough will remember this lesson for many years. From time to time, I write a small article for the borough newspaper on the use of gasoline.

About four times a year, I talk to the High and Junior High Schools, thereby reaching about 30,000 pupils. Many persons have commented on the way that the boys and girls follow these lessons.

The State Fire Marshal and the Allegheny County Fire Marshal are ever ready to help me. They answer my questions and send me books and letters concerning gasoline and naphtha.

George Boughner, Chief, Grand Rapids, Mich.: We have no regulations concerning this practice. We issue warnings wherever possible through the use of radio, newspapers and talks at gatherings and before school children.

We inspect all buildings including homes—the latter once a year. The danger resulting from the use of gasoline is impressed on the housewife. The Fire Department broadcasts over the radio once each week, and all schools are visited twice a year. The use of gasoline in the home, is, in my opinion, one of the most dangerous practices.

John Gibson, Chief, Mt. Vernon, N. Y.: It is most difficult to control and regulate dry cleaning in the home. The use of inflammable liquids is controlled by the Bureau of Fire Prevention and they are working very hard to discourage dry cleaning in the home.

We have found the press one of the best mediums for educating the public to the dangers of dry cleaning and the loss that may result. Much good has resulted. We have no State Fire Marshal.

W. H. Mitchell, Chief, St. Joseph, Mich.: In the absence of local ordinances covering dry cleaning in the home, we continually use the local press to warn the public. Whenever we have a fire in a home due to the use of gasoline, we stress the fact in the newspapers.

During every fire prevention talk in the schools, the children are warned of the dangers of using gasoline in the homes so that they can take the lesson home. Mothers have told us that in this we have succeeded.

The State Fire Marshal helps us in this way. They have provided us with laws restricting the sale of gasoline and naphtha, as to the amounts sold and the type and color of the containers.

B. S. Kidwell, Chief, Aurora Hills, Alexandria, Va.: We have no regulations governing dry cleaning in private homes. We warn women of the danger of fire and we urge them to be careful in the use of gasoline and naphtha. We advise that where there are small children, no gasoline should be used. The State Fire Marshal gives us good cooperation along this line.

Albert Chamberlain, Chief, Hillside, N. J.: Our ordinances only allow one quart of gasoline to be kept in a house and that the gasoline be in an approved safety can. Any person found violating this ordinance will be penalized. At various times we tell of the dangers of using such materials at home and we discourage the use of inflammable fluids as much as we can.

ANSWERS TO PREVIOUS QUESTIONS

The following replies are in answer to a previous question on whether the purchase of fire apparatus should be speeded up, due to the business depression and whether this is a good time to strengthen the Fire Department:

J. C. Mooney, Chief, Watertown, S. D.: Now is the time to buy, as the price of fire apparatus has come down. Better results are obtained with plenty of fire apparatus and men and therefore the insured is less inclined to sell out to the fire insurance company. If each city would add a few men to their department, even if only for the winter months, it would be a great help to the Fire Department and would also be a means of employing some of the men now out of work who have a family to feed. I added a new piece of fire apparatus this summer which was needed for some time. I say, by all means buy fire apparatus as there is no telling when it will be needed.

C. P. Townsend, Chief, Saint Augustine, Fla.: I certainly believe that the depression should put every Fire Department on the alert. A crippled department would encourage arson, and if the department was crippled

Effective Work Performed by Worcester Fire Patrol

Considerable property is saved every day through the work of the Worcester Protective Department, Worcester, Mass., under command of Lorton C. Walden, Superintendent. The photographs show how thorough the patrol is in protecting property from water damage. The upper illustration shows a restaurant protected by twelve covers before any of the contents became wet, and the lower photograph was taken after the rubber covers were removed.

when the fire did occur, the fire-fighters would be out of luck.

A stitch in time saves nine, and if the depression causes a city to try to save taxes by cutting down the department as many cities are now doing, they will be sorry for this step when it is too late.

H. L. Beegle, Chief, Scottdale, Pa.: There should be no delay in making the necessary purchases for the Fire Department at this time.

Incendiary fires have been increasing in the past year in the vicinity that we protect. The arsonist gets the fire under good headway before we are called and it therefore requires additional equipment to get the fire under control. To weaken the department by not making the necessary purchases at this time might encourage more persons to set fire to their properties due to the depression.

I believe that this would be a good time to strengthen the weak spots in the Fire Departments as it is possible at this time to purchase equipment at more reasonable figures and without a long wait before delivery.

John F. Simpson, Chief, Sunbury, Pa.: I believe all Fire Departments should be in the best condition during these times as there are many more fires than during good business periods.

R. S. Hicks, Fire Dept., Marietta, Ga.: I do believe that the purchase of fire equipment at this time is good policy, due to the fact that property owners are in a crippled condition which forces them to economize in the construction and maintenance, etc., at the same time failing to take the necessary steps of caution as to fire loss.

A crippled Fire Department would encourage the arsonist, because they would take great chances to burn and collect insurance on property, knowing that the chances for completely destroying the houses, etc., would be far greater if the property was not properly protected by a sufficiently large department.

Now is a good time to strengthen the department. If houses, mills, etc., do not take the proper caution to prevent fires, the fire hazard in that vicinity will be far greater, necessitating a larger Fire Department.

Guy Giddings, Chief, Hastings, Mich.: I believe in a time of depression that there will be more fires owing to the fact that farm property has decreased in value and the insurance value has not decreased. The Fire Department should be kept at full speed for a crippled department would be good fodder for the arsonist and would result in a heavy fire loss.

I do not believe that this is not a good time to neglect the Fire Department.

Albert Herring, Chief, Murphysboro, Ill.: The speeding up of the purchase of fire equipment is an excellent idea at the present time and would be in line with the unemployment program of almost every community in the country.

The arsonist, I fully believe, knows and takes into consideration a crippled department and will work accordingly.

The Fire Department should be strengthened at the present time as it will not only furnish employment but will give the various Fire Departments needed equipment.

J. M. Andrews, Chief, Sherman, Tex.: Fire apparatus should be purchased when necessary. It is difficult to control arson fires with fire apparatus. The arsonist will take into consideration the strength of the department; should it be a strong department he will "pour on more gasoline and coal oil."

I believe that the department should be strong at all times.

* * *

The following replies are in answer to a previous question on what steps the Fire Department takes when it finds that it is hampered by overhead high tension wires at a fire:

J. A. Druetta, Jr., Chief, Natchez, Miss.: Our local power company (Mississippi Power and Light Company) cooperates with the Fire Department at fires. Alarms are given to the Power Company and a truck sent to fires, fully equipped to cope with high tension or broken wires.

When the executives of the Power Company are interested in fire protection and the preservation of their property, good cooperation can be counted upon from the Power Company.

W. C. Norton, Chief, Winona, Minn.: Our city electric system is divided in sections, and we call upon the power station and have the current cut off in the locality where the fire is, when hampered by high tension wires.

When we are faced with broken wires, we keep the public at a safe distance and have the power cut off. If it is not a very high power wire, we carry wire cutters and rubber gloves, which are tested every month, and cut the wire.

I believe it is a good method to have an agreement with the power company to have some representative of their firm report at the fire, especially in certain districts.

WESTCHESTER CHIEFS DISCUSS ARSON INVESTIGATION BUREAU

A County Arson Bureau and a Fire Prevention Bureau Are Considered at the January Meeting

ARSON investigation and fire prevention were discussed at the January meeting of the Fire Chiefs' Emergency Plan of Westchester County, N. Y., which took place at Fire Headquarters, Chappaqua Independent Fire Company, District No. 1, on Wednesday, January 20, at 8:30 p.m. There was a large attendance of Chiefs and other Fire Department officers of the county.

The matter of a dinner to be tendered to Ex-Chief James J. Mulcahey, of Yonkers, N. Y., by the plan, was discussed, and it was decided to combine the dinner and the next regular meeting, and to hold it at the recently opened fire house at Union Corners, Eastchester, near Bronxville, N. Y., on February 10.

A proposal to form a Fire Prevention Bureau in Westchester County, was opposed by Chief Brennan, of Pelham Manor. He said that he believed fire prevention was strictly a matter for each Chief to attend to himself. He regarded the plan of a county bureau as an utter impossibility, as villages all have different laws and regulations on the subject.

Chief Charles H. Perschke, Mamaroneck, believed that the plan should be carried further and that it be made an investigation bureau in cases of arson.

The latter plan Chief Brennan believed would be an advantage, but not the Fire Prevention feature.

Chief Gibson, Mount Vernon, pointed out that, should any such plan as that proposed for the Fire Prevention Bureau go through, there would be danger of the Chief losing his identity. The National Board of Fire Underwriters can give all the information needed on fire prevention. He believed, however, that a central bureau to investigate arson would be an advantage.

Chief Brennan called attention to a bill before the New York legislature providing that when a volunteer department is headed by a paid Chief, such officer can only be appointed after a civil service examination. He believed the plan should go on record as endorsing the bill. Chief Gibson suggested that the Secretary obtain a copy of the bill and that it be made a special order for the February 10 meeting. This was agreed to.

Captain Dawkins spoke of the coming report in connection with the committee on the Zoning, and again urged that all Chiefs who had not done so, send in the replies to the questionnaires at once. The book to be issued would contain a complete inventory of apparatus and equipment of all of the Westchester Departments.

Chief Brennan spoke of the plan of having a code word adopted, so that in case of a call for help from another department, there would be no danger of any outsider representing himself as the Chief and causing an unnecessary call. This was discussed by Chiefs Veit, Stamford Conn.; Lounsbury, Portchester; Perschke, Mamaroneck, and others. The matter was left to a committee, composed of Chief Lemon, Chairman; and Chiefs Bart, Brennan and Lounsbury.

An interesting address was given by Mr. Seagrave, of the Mine Safety Appliance Company, on the subject of the Fire Hazards of Fumigation and the dangers to firemen from gases in such fires.

Refreshments were served by Chief Rozner and the Chappaaqu Department after the meeting.

Milton, Mass., is considering the purchase of a new ladder truck.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Two Engines for Three 1100-Foot Lines

To the Editor:

I was quite interested in the Question and Answer Column of your January, 1932, issue. The first question under this head is how to get 120 lbs. nozzle pressure on a 1¾-inch tip through 1,100 ft. of hose.

I beg to submit the method of accomplishing this with two engines operating in tandem. The figures I have used are in the Fire Stream Tables as published by the National Board of Fire Underwriters. The total delivery of 996 g.p.m. could be carried from the first engine through three 3-inch hose lines into the suction of the second engine, each hose line 1,000 ft. long. The capacity of the first engine would be delivered into the suction of the second engine at approximately 20 lbs. suction pressure. The second engine could take out this water at 20 lbs. and discharge it at 140 lbs. through three 100 ft. lines of 3-inch hose siamesed into a deluge set. The thought occurred to the writer that such a stream might be desirable on a location where three engines were not available.

At our last fire college in Madison we demonstrated the possibility of obtaining water through 2,000 ft. of hose by operating the pumpers in tandem. This seemed to be of considerable interest to the members attending the school.

FRANK R. DANIEL,
Chief Engineer, Fire Insurance Rating Bureau,
Milwaukee, Wis.

Supplying Sprinkler System

To the Editor:

Will you please answer the following question:

We have one 750-gallon pumper and one chemical and hose car in use. A building, three stories, equipped with a sprinkler system, catches fire in the elevator shaft and spreads over the second and third floors. The building has one siamese connection on the outside of the first floor. The building is of concrete block, is on a corner in the heart of the business section, and is 75 feet by 70 feet.

With a normal city pressure of 50 pounds, and only three possible lines to use from the pumper, is it wise to connect to the siamese and force the water through the sprinkler system with two other lines left to use on the fire and protect other adjoining buildings? Would it be too much work for the pumper to put a line into two siamese connections on one line and connect to the sprinkler system and use the other line to fight small fires which might occur on the first floor or adjoining buildings? What is your opinion as to the best method in handling the case?

S. A. I.

Answer: With reference to the operations at the fire involving the two upper floors of a three-story building, 75 x 70 feet in area, you have quite a job on vour hands. It is assumed that most of the sprinkler heads will be opened on those two floors, particularly since the fire has, as you state, "spread over the second and third floors." A sprinkler head is supposed to cover not more than 100 square feet, and if this rule is applied in the sprinkling of this building, you will have in the neighborhood of 52 heads on each floor. The discharge from a sprinkler head is in the neighborhood of 30 gallons per minute where the pressure is 25 pounds. Thus if all the heads on the two floors are opened at one time it would require a flow of 3,120 gallons per minute. Of course, no fire engine at present built could handle this task.

If the pressure in your water mains is satisfactory, it might be beneficial to stretch in two lines of hose from the nearest hydrant to the sprinkler siamese at the street, and let the pressure in the mains take care of supplying the sprinkler heads insofar as such is possible. Then the efforts of the Fire Department would be devoted to covering exposed structures and operating on the fire itself. If fire apparatus is available in nearby towns it should certainly be called, for a blaze of this size would require far more apparatus than you have on hand to handle it, particularly if there is going to be any salvage.

Operation of Centrifugal Pumps

To the Editor:

Because of the installation of a number of centrifugal pumpers in New York Fire Department quite a few questions have come up from time to time regarding the operation of such pumps. The absence of pressure relief values cause confusion among the students and members of the department.

I would like you to give me some information on the following:

(1). If pumper is working at pressure of 180 pounds through a line of hose with 60 pounds on nozzle, and the nozzle is suddenly shut off, what pressure registers on engine pressure gauge? Would that remain built up or would it drop back to 180 as it was before?

(2). For what purpose is governor on motor? Is it to regulate engine speed? How does this governor work? Does it work from pressure built up on line?

(3). Some people say that slippage is 100%. Does that mean that no pressure can be built up unless water is flowing? I cannot agree with that because the Fire Department has to test hose with closed nozzle and build up pressure up to 200 pounds.

A. J. D.

Answer 1: If the pumper is working at a pressure of 180 lbs., and the nozzle is suddenly shut off, there will be an instantaneous rise of pressure, but it will be only instantaneous, the pressure dropping back to around 180 lbs., or possibly less, if the engine speed remains constant.

When all of the streams are shut off at once while the pumper is in operation, the load is decreased, and the water is simply turned by the impellers. On the other hand, if all the discharge outlets on the pump are opened, a volume of water much greater than the rating of the pump is obtained, at correspondingly lower pressure. In each case, however, the engine does not stall, but continues its operation in accordance with the demands which are made upon it. When the streams of water are shut-off while the pump is in operation, the lessened demand upon the engine causes it to increase in speed. This, in turn, increases the pump pressure; the amount of the increased pressure depending upon horse-power output of the engine with the existing throttle opening. This rise in pressure might cause serious injury to firemen holding a nozzle in case two lines of hose were being operated from the pump and one of them were shut off, because the pressure in the pump would rise as soon as the nozzle was closed, and this would increase the pressure upon the nozzle of the remaining line.

Answer 2: To protect against increase in pressure such as

described in answer number one, centrifugal pumps are provided with automatic governors, which are actuated by the pressure in the pump, making it possible to shut off one or more nozzles, together or separately, without affecting the pump pressure. The governor automatically slows the engine down as soon as the streams are shut off, and maintains the pressure in the pump at which the governor is set to operate. Upon opening the nozzles, the governor works in a reverse manner, speeding up the engine to take care of the added demands made upon it. After the governor has been adjusted to operate at the pressure at which the pump is then working, it requires no further attention, until conditions of pumping are changed.

Answer 3: Where the pump is operating, but all lines shut-off, the slippage is 100%, but this does not mean that pressure cannot be created. The pressure is produced by centrifugal action, and it is right there awaiting opportunity to force the water through the lines, as soon as the nozzles are opened up.

For information on the design and method of operation of pressure regulators, or governors, you are referred to operators' manuals published by the manufacturers of the type of centrifugal pumping engines you have in mind.

NEW ENGLAND FIRE CHIEFS CONSIDER CONVENTION PLANS

Meetings and Exhibits Will Be Held in One Building at Newport Beach, R. I.—Hotel Viking, Convention Headquarters

By Harry Belknap

PLANS for the tenth annual convention of the New England Association of Fire Chiefs which is to be held in Newport, R. I., June 21 to 24, were considered at a meeting of the Board of Directors held in Newport on January 15.

Chief Joseph S. Lawton
President and Convention Host

Visits were made to the Hotel Viking, which will serve as the convention headquarters, and to Newport Beach where the meetings and exhibits will be held. There are two large connecting halls at the casino fronting on the beach boardwalk which will prove ideal for the purposes of the convention as it will be possible to have the display of Fire Department apparatus and accessories in the same building as the convention hall where the meetings will take place.

Mayor Mortimer A. Sullivan, of Newport, and Dr. Horace P. Beck, President of the Newport Chamber of Commerce, met with the Chiefs and promised hearty support in the preparations for making the Newport Convention the biggest and best ever held by the association.

The meeting, held in the rooms of the Newport Chamber of Commerce, was attended by the following: Chief Joseph S. Lawton, of the Newport Fire Department, President of the New England Association of Fire Chiefs; Chief John W. O'Hearn, of Watertown, Mass., Secretary-Treasurer of the association; Chief James M. Casey, of Cambridge, Mass., Director; Chief John S. Pachl, Annex Fire Department, New Haven, Conn., Director; Harry Belknap, Boston, press representative; Dr. Horace P. Beck, President of the Newport Chamber of Commerce; A. L. Marshall, Chairman of the Convention Committee of the Newport Chamber of Commerce; Herbert A. Lawton, Secretary of the Chamber; Gardner H. Williams, Manager of the Hotel Viking; D. J. McGovern, manager of Newport Beach; H. P. Harrison and J. J. Conron, both of the Chamber of Commerce.

The resignation of George F. Cobb as Traffic Manager of the association was accepted and he was given a vote of thanks for his services.

I. A. F. C. to Meet October 18-21

At a meeting of the President and local officers of the International Association of Fire Chiefs held recently in San Diego, Cal., it was decided to hold the annual meeting of the Association October 18-21. When San Diego was selected as the convention city by the members gathered in Havana, it was at that time planned to hold the convention some time during August.

Secretary O'Hearn reported the following deaths of members since the last convention: Chief H. Martin, Enosburg, Vt.; Chief W. F. Clark, Naugatuck, Conn.; Chief Homer Mallory, Turner River Fire Department, Stamford, Conn.; Chief Daniel Johnson, Bridgeport, Conn.; Chief John F. Fleming, Fairlawn Fire Department, R. I.; Ex-Chief Henry Brown, Marlboro, Mass.; and of three associate members, James Hooban, Taunton, Mass.; Gilbert Toone, of the Gamewell Company, Newton, Mass.; and Irving F. Labensky, City Electrician, New London, Conn.

A handsome new brick fire headquarters building is now under construction in Newport and will be completed in the late spring. It is planned to have the dedication ceremonies as part of the convention program.

Box 52 Association Meets in Newton

Chief Clarence R. Randlett, of Newton, Mass., was host to the Box 52 Association, Inc., of Boston, on January 20, when the members, headed by President P. Hildreth Parker, visited the fire alarm headquarters in Newton.

A. N. Miner, Jr., Vice-President of the Massachusetts Safety Council, was the chief speaker. Copies of the proposed changes in the state arson law were distributed and discussed by the members and visiting chiefs.

HARRY BELKNAP.

J. J. McGuire Chief of Peekskill, N. Y.

James J. McGuire has been elected Chief of Fire Department, Peekskill, N. Y., for a three-year term. He joined the department in 1907 and was made an active member of the Centennial Hose Company on April 23, 1907.

In 1909 he was advanced to Second Lieutenant and one year later to First Lieutenant. Mr. McGuire served as Captain of the company for five years, as Second Assistant Chief Engineer for two years and as First Assistant Chief Engineer for three years.

Chief J. J. McGuire

St. Louis Wants Action

Early in 1931, an ordinance was approved in St. Louis, Mo., for installing a fire alarm system to cost $150.-000. It carried a clause to have bids taken on April 14. The bids were rejected on May 19 on the grounds that a system could possibly be installed at a lower price. Now agitation has been started to learn why nothing has been done to have the new fire alarm system installed.

At a meeting of the officers of the Indiana Fire Chiefs' Association held in Huntington, Ind., June 22 and 23 were selected as the dates for the 1932 convention which will be held in Huntington.

OLD LODGE BUILDING IN BOSTON DESTROYED BY FIVE-ALARM FIRE

Firemen Ordered Out Before a Clock Tower and the Roof Gave Way — Blaze Had Considerable Headway But Did Not Spread

By Harry Belknap

FIVE alarms were sounded in the early hours of the morning of January 4 for a fire which destroyed the old 5-story stone building at the junction of Tremont and Berkeley Streets and Warren Avenue in the South End District of Boston, Mass., with a loss estimated at $150,000.

The structure was known as the Odd Fellows' Block and contained stores on the ground floor and lodge halls and meeting rooms on the upper floors including two large halls known as Odd Fellows' Hall and Berkeley Hall. The blaze apparently originated in the rear of the second floor and traveled up a stairway and an old elevator shaft to the upper stories. It had obtained great headway before the first apparatus reached the scene.

The first alarm came in at 4:25 a.m. Engine Company No. 22 and Ladder Company No. 13, from the Warren Avenue fire house less than two blocks away, were quickly at the scene and found the fire raging in the rear.

A second alarm was ordered at 4:28; third alarm at 4:32; fourth alarm at 4:49; and fifth alarm at 5:20. Special calls were sent in for an additional hook and ladder truck and a third water tower.

Hose lines were taken over stairways and up a fire escape in the rear as well as over ladders and to the roofs of adjoining buildings. Several companies of firemen working inside the structure were ordered to drop their lines and get out just before the roof and a clock tower crashed in.

After the flames drove the firemen out, the battle was waged from the street, fire escapes, and nearby roofs. At the height of the fire, there were seven Morse wagon guns, three water towers, and six roof lines operating on the flames. Chief Henry A. Fox was in charge of department operations. Current was ordered shut off the trolley wires which were then cut.

The response of apparatus to the various alarms was as follows: 1st alarm, Engine Companies 22, 3, 26, and 15; Ladder Companies 13 and 3, Rescue Company 1, Chief of District 7, Chief of Division 2; 2nd alarm, Engine Companies 35, 10, 6, 13, and 43; Ladder Companies 17 and 12, Water Tower No. 2, Chief of District 5, Chief of District 8, and Lighting Plants 1 and 2; 3rd alarm, Engine Companies 32, 39, 34, 33, 23, and 2; Water Tower No. 1, Fuel Wagon; 4th alarm, Engine Companies 8, 16, 21, 20, and 9; Ladder Company 24, and Chief of District 9; 5th alarm, Engine Companies 37, 7, 53, 18, and 50. By special calls Water Tower No. 3 and Ladder Company 20 responded. The wagons of the Boston Protective Department and the emergency cars of the Edison Electric Illuminating Company, Boston Consolidated Gas Company, and Boston Elevated Railway were also at the scene. A box pulled by a citizen at 4:59 a.m. brought Engine Companies 12 and 37, Ladder Company 18, and the Chief of District 4.

Firemen Fighting the Blaze in the Odd Fellows' Block

The officers at the fire were Chief Fox, Assistant Chief Henry J. Power, Deputy Chief William F. Quigley, and District Chiefs Samuel J. Pope, Dennis A. Coughlin, Charles McDonnell, and William H. McCorkle. There were 230 officers and men at the scene. The nozzles were 1¼-inch on mobile lines, 1⅝-inch on wagon guns, and 2-inches on the water towers. The total amount of hose laid was 18,000 feet of 2½ and 3-inch cotton rubber lined. The length of ladders raised was 1,317 feet.

Ruins of the Five-Alarm Fire in Boston

The building was built in 1872 and was of second class construction with a mansard roof. It was 85 feet in height. The area was 80 by 75 by 90 feet. The walls were granite and brick. There were no automatic alarms or sprinklers in the building and no watchman service. There was one brick partition wall. Heating was by steam and there was an electric elevator. The superintendent and his family lived on the third floor rear. There was a small ammonia plant in the basement for use by a florist and caterer. Four persons were rescued or assisted from the third floor. Two hundred guests in the Hotel Clarendon, adjoining the Odd Fellows Block, were aroused when the flames threatened to spread. Fire, however, was confined to the building in which it originated. Damage to the lower floor was confined to smoke and water loss, but the upper stories were completely burned out, the roof and top section on the Tremont Street side falling in.

The fire was outside of the high pressure district of the city, but there were plenty of post hydrants available with an average pressure of 55 pounds from 12 inch mains. American-LaFrance motor pumping engines and hook and ladder trucks of the same make rendered efficient service. The ladders and towers as well as the fire escapes and streets became coated with ice from the freezing spray of the hose lines. Firemen were stationed on roofs to leeward of the fire to watch for flying sparks and embers. One fireman and one member of the Protective Department suffered injuries requiring hospital treatment.

More than sixty lodges and fraternal organizations met in the building and many of these lost valuable prizes and regalia. The members of the Boston Protective Department, under orders of Supt. Peter E. Walsh, spread over 100 rubber covers and 30 of these were lost.

The "all out" signal was sounded at 1:51 p.m., but a hose line and detail of firemen remained at the scene to guard against the rekindling of flames amid the ruins.

Oil Tank Explodes in Middletown, N. Y.

Burning gasoline rained down upon a group of workmen when a large storage tank in the storage yard of the Standard Oil Company in Middletown, N. Y., exploded with a deafening roar at 8:30 a.m., recently.

At the first sign of fire, workmen began playing hand fire extinguishers and chemical lines on the blaze. The huge sheet metal roof of the tank was blown off and as a result nine persons were treated for injuries at the Horton Memorial Hospital. The men as they ran to possible safety left a train of burning garments.

Less than ten feet from the tank that had exploded was another containing a large quantity of gasoline. Streams were directed on this tank to keep it cool.

Firemen under the direction of Chief W. M. Seeley di-

rected water streams on the outside of the tanks to prevent the spread of the fire, and foam streams were discharged into the ruptured tank to extinguish the oil fire. Within twenty minutes after the use of foam, the blaze was under control. Additional supplies of foam powder were obtained from the Monticello, N. Y., Fire Department and from the

Cooling Down the Nearby Oil Tanks

Texas Oil Company in Middletown. Chief Robert York from Monticello rushed the powders to the oil fire.

It is the opinion of Chief Seeley that the fire was caused by a spark produced by a workman in unscrewing a manhole plate near the base of the tank.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designating in the headings. These figures, compiled from telegraphic reports are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Week Ending January 15	Loss in Thousands of Dollars
PEABODY, MASS.—Factory of Lampert Leather Co. destroyed	80
TUCKAHOE, N. J.—Hotel, post office, adj. property	65
BURLINGTON, N. C.—Whitten store damaged	50
ROBINSON, N. DAK.—Post Office, Swanson store and Waxman's whse.	25
CHIPPEWA FALLS, WIS.—Zion Lutheran Church destroyed	35
WHEELING, W. VA.—Hancher Mansion, Wheeling Island	35
WILMINGTON, DEL.—Business property 802-4 Market St	40
DESLOGE, MO.—Goff store and Miners Lumber Co. property	50
LACKAWANNA, N. Y.—Property of Avery Floral Co.	30
ALBANY, N. Y.—Weeks Leather Shop, 511 Broadway	25
MURRAY, UTAH—Murray Mills, Inc., and bldg. of United Egg Corp	25
LARAMIE, WYO.—Plaster plant of Certainteed Products Co.	80
SOUTHAMPTON, N. Y.—Business property, Main St.	65
DOVER, N. H.—Morrell block in business section	750
CLEVELAND, OHIO—Business property at 8715 Buckeye Rd. S. E.	40
HINCKLEY, MINN.—Hinckley grade school damaged	50
TRUMBULL, CONN.—Residence of Chas. O'Donnell destroyed	40
LONDON, ONT.—Kingsmill store, adj. property	500
LEESVILLE, LA.—Plant of Weber King Lumber Co.	70
OYSTER BAY, N. Y.—Property of J. E. Rousmaniere, Bay Cove Rd	25
CANFIELD, OHIO—Six business establishments, one resident	50
PORTLAND, OREG.—Repair shops of Oregon Elec. Railway Co.	80
VINING, MINN.—Lund Mercantile Co. and Hoff Cafe	35
CLAYTON, ALA.—Farmer's warehouse destroyed	80
BRIDGEPORT, CONN.—Masonic Temple and Brooks Furniture store	200
FARMINGTON, ME.—Garage of H. E. Newman destroyed	25
WATERVILLE, ME.—Main Street business property	80
MANNING, TEX.—Post office and property of Kelley Lumber Co.,	45
NEW LEXINGTON, OHIO—Property of Lancaster Coal Co., 2 mi. East	100
SPRINGFIELD, OHIO—Stores of Bogen's Inc. and Bancroft's Inc	45
SMITHFIELD, N. C.—Thornton furniture store destroyed	25
WAHPETON, N. DAK.—Home Hotel and Wahpeton Drug Co.	50
CLEVELAND, OHIO—Store of Chas. K. Gross damaged	40
MEMPHIS, TENN.—Property occupied by McLellan Stores Co.	65
PHOENIX, ARIZ.—Bldg. occupied by Manufacturing Stationers, Inc.	150
BRIDGEVILLE, DEL.—Plant of Bridgeville Packing Assn	65
NEW ORLEANS, LA.—Business bldg. at 517 Canal Street	65
OLEAN, N. Y.—Property of Lean Glass Co. damaged	800
PATERSON, N. J.—Bridges Ice House, Haledon Ave.	25
BLOOMVILLE, WIS.—Wagner store, near here	25
SOREL, QUE.—Guevremont Pharmacy and adj. property	25
ROCK ISLAND, QUE.—Rock Island House Hotel destroyed	55
FALLS CITY, NEB.—Presbyterian Church destroyed	30
Week Ending January 22	
COOLIDGE, ARIZ.—Several business establishments damaged	35
DETROIT, MICH.—Factory of Peninsula Metal Products Corp.	80
DODDSVILLE, MISS.—Cotton plant of Doddsville Gin Co.	40
PICQUA, OHIO—Seven stores destroyed	125
BRIDGETON, N. J.—Ivy Hall Sanitarium damaged	25
FORT DAVIS, TEX.—Ranch home of W. W. McCutcheon	40
SARATOGA, CAL.—Home of Chas. D. Blarney destroyed	80
SAN FRANCISCO, CAL.—Ajax Foundry and adj. property	40
POTTSVILLE, PA.—Business property, Center & Market Sts.	80
SUPERIOR, WIS.—Northwestern Motor Supply Co., adj. property	45
GARY, IND.—Five and ten cent store, offices above	45
LOUISVILLE, KY.—Property occupied by P. Bannon Pipe Co.	45
VICTORIAVILLE, QUE.—Business and residential property	35
GLEN COVE, N. Y.—Bathing pavilion on Pratt estate	25
LOS GATOS, CAL.—Kimball Dept. store damaged	25
MINNEAPOLIS, MINN.—Acme Hotel, Washington Ave. South	60
LORENA, TEX.—Stewman's Cafe and adj. property	25
WAUSAU, WIS.—Three business buildings damaged	35
WORCESTER, MASS.—All Saints' Episcopal Church destroyed	200
SHREVEPORT, LA.—Three stores damaged	30
KANSAS CITY, MO.—Plant of Kansas City Star damaged	30
NEW GLASCOW, N. S.—Store of J. J. Grant & Sons, adj. property	60
EATON, OHIO—St. Paul Methodist Church destroyed	45
WEEK ENDING JANUARY 29	
COAHOMA, MISS.—Ralston cotton gin damaged	25
PRINCETON, N. J.—Princeton Nursery Barn destroyed	25
NEW BETHLEHEM, PA.—McEwen bldg. occupied by business concerns	45
WINNIPEG, MAN.—Barn and stock of Allandale Dairy Farm	25
FREMONT, NEB.—John Miller bldg. damaged	45
MONCTON, N. B.—Orange Hall bldg. damaged	25
SEARCY, ARK.—Property of D. J. Norris	25
GLENWOOD, ARK.—Sigman bldg. and adj. property	25
WEBSTER, MASS.—Plant of West Dudley Paper Mills	80
ALPENA, S. D.—Business establishments including post office	30
OMAHA, NEB.—Plant of Omaha Paper Stock Co. damaged	25
LANDOVER, MD.—Beaverdam Country Club destroyed	50
DOVER, N. H.—St. Charles French Catholic Church	25
ETAM, W. VA.—Mill occupied by Buffalo Creek Lumber Co.	200
WILMERDING, PA.—Business property owned by Volpe Bros.	25
RYDE, CAL.—Packing plant of Libby, McNeil & Libby	325
FREDONIA, N. Y.—Chesterland Riding Academy and stables	25
MARSHALL, N. C.—Walnut High School destroyed	25
SARATOGA SPRINGS, N. Y.—Eureka Springs office and store	25
PASSAIC, N. J.—De Forest Laboratories and radio station	60
WINNIPEG, MAN.—Canadian Box factory	25
RHINELANDER, WIS.—Business property at Stevens & Davenport Streets	45
MONTCLAIR, N. J.—Whse of Montclair Feed & Fuel Co.	40
TORRINGTON, CONN.—Agard bldg. occupied by business concerns	40
TYRO, OHIO—Farmers and Citizens Bank bldg. destroyed	25
HARRODSBURG, KY.—Bldg. of Standard Oil Co., adj. property	65
PRESIDIO, TEX.—Sante Fe Railroad international bridge destroyed	200
BLOOMSBURG, PA.—Business and apartment property	80
UKIAH, CAL.—Vichy Springs hotel destroyed	25
IOWA CITY, IOWA—Mandarin Inn, adj. property	165
HUNTINGTON, IND.—C. W. Sowerwine store damaged	25
LESSVILLE, LA.—High School damaged	70
SAN FRANCISCO, CAL.—Business property, 3043-51 16th St.	45
PADUCAH, KY.—First Presbyterian Church destroyed	65
JACKSON, MISS.—Wholesale grocery warehouse damaged	25
WELLSVILLE, OHIO—Property of Porcelain & Refractories Co.	25
LODI, WIS.—Two business establishments in Vaughn bldg.	45
LANSING, MINN.—Lansing State Bank bldg. adj. property	25
KANSAS CITY, MO.—Business property at 712 Walnut St.	65
PHENIX CITY, ALA.—Factory of C. B. Stillwell	35
HARRISBURG, ARK.—Dwelling of J. A. Bradsher destroyed	35
Week Ending February 5	
WILLIAMSPORT, PA.—Penn Street Planing mill destroyed	35
COHOES, N. Y.—Brewery of Penrose & McEniry destroyed	25
CAMBRIDGE, MASS.—Church and rectory of St. Francis of Assisi	25
IRVONA, PA.—McCrossin Hotel and adj. property	30
BOSTON, MASS.—Beech St. property occupied by leather concerns	275
SHANNON, ILL.—Rhodes hatchery and adj. property	50
PORTLAND, ME.—Boyce Machine Co. on Central Wharf	35
JERSEY CITY, N. J.—Garage, Whse., adj. property, 5th St.	80
EDENTON, N. C.—Plant and warehouse of Farmers Peanut Co.	150
DETROIT, MICH.—Lumber yard of W. G. Hurd Co. damaged	80
ATTLEBORO, MASS.—St. John's Catholic Church destroyed	80
HAWARDEN, IOWA—A. E. Ross furniture store destroyed	25
LAMPMAN, SASK.—Queens Hotel destroyed	25
CHICAGO, ILL.—Grain elevator of Atlantic Elevator Co.	80
VERNON, PA.—J. H. Coleman store and dwelling destroyed	25
KINSTON, N. C.—Sutton and Randolph buildings damaged	30
BERWICK, PA.—Several business establishments damaged	25
BRADDOCK, PA.—Central Hotel, adj. business property	45
FARMINGTON, ME.—Plant of Franklin Farm Products Co.	45
SHENANDOAH, IOWA—Plant of Economy Hog & Cattle Powder Co.	25
WHEATON, ILL.—Country home of W. J. Sutherland	70
SAULT STE. MARIE, ONT.—McDonald grocery, adj. property	80
CLINTON, MO.—Property of Dr. N. R. Stebbins destroyed	25
BARBOURVILLE, KY.—Carnes Dept. store destroyed	25
GROSSE POINTE PARK, MICH.—First Reformed Church	25
GREENBRIER, TENN.—Factory of W. H. Simmons & Co.	25
E. WESTON, W. VA.—Glass plant of C. A. Bochert Co.	40
HOUSTON, TEX.—Foley dept. store, adj. property	45
ST. THOMAS, ONT.—Myrtle Street school destroyed	45
HOUSTON, TEX.—Evangelistic Temple destroyed	175
AMARILLO, TEX.—Amarillo Country Club destroyed	45
SUMMERSTORM STATION, ONT.—Business and residential property	25
MIDDLEBURY, VT.—Delphia block, damaged	25

* * *

The following corrections cover items appearing in the "What's Burning" column of the January issue.

Loss of property owned by the D. & R. G. W. Railroad at Grand Junction, Colorado, was but $10,000 instead of $65,000 as stated.

Under Lake Charles, Louisiana, warehouse of the Niblett Farms is located 30 miles from the above city and therefor should not be considered as a loss sustained by that community.

When Firemen Go to School

(*Continued from page* 58)

Instruction in the operation and use of apparatus, tools and appliances, standardization and names of implements, etc.; demonstration to include various kinds of apparatus, tools, and appliances used throughout the department, operation under actual working conditions. Rescue and first aid demonstrations.

Lecture No. 3

Practical Fire Department Hydraulics, by District Chief John F. Good.

Demonstrations under actual working conditions of fire streams, towers, deck, and portable guns, various size nozzles, stream reaction, friction loss, etc.

Lecture No. 4

Motor Apparatus, by Edward E. Williamson, Supt. of Maintenance.

Instruction in the care and operation of motor apparatus, knowledge of parts, lubrication and operation, responding to, at, and from fires.

Lecture No. 5

Fire Alarm System, by George L. Fickett, Supt. of Fire Alarms.

Instruction and demonstration in the technique of the Fire Alarm System. To be given at the Fire Alarm Office.

Lecture No. 6

High Pressure System, by W. C. Bailey, Supt. of High Pressure.

Inspection and demonstration of the High Pressure System; its purpose, operation, and care of hydrants.

Lecture No. 7

Water Supply for Fire Purposes, by Engineer Daniel M. Sullivan, of the Department of Public Works, Boston.

Instructions and demonstrations. Water system, source of supply, mains, hydrants, gates, etc. Pressure at different elevations, reservoirs, storage, etc.

Lecture No. 8

Fire Prevention, by Deputy Chief Albert J. Caulfield.

Instructions in the more modern methods of inspection for the purpose of fire prevention; laws and ordinances, rules and regulations governing same.

Lecture No. 9

Official Papers, by District Chief John J. Kenney.,

Instructions in the proper method of communicating and handling of departmental papers.

Lecture No. 10

Economy of Upkeep—Care of Hose. District Chief Daniel J. Martell.

Instructions in economy of upkeep of company quarters, apparatus, appliances, etc. Instructions in the care of hose, hose couplings in quarters and at fires. Purpose of testing hose, etc. Lost equipment.

Lecture No. 11

Common and Special Hazards—N. J. Thompson, Research Engineer. Deputy Chief Louis C. I. Stickel.

Instructions in the methods of detecting common and special hazards, methods of hazardous manufacture, pyroxyline plastics, celluloid products, motion picture films, "Compocompound," etc. Also includes airports and hangars.

Part 1—Detecting the causes of fire along with the detection of special hazards. Methods of hazardous manufacture, pyroxlin plastics, celluloid articles, motion picture films, also to include airports and hangars. This lecture to be given on the premises of the Associated Factory Mutual Fire Insurance Companies, 184 High Street, Boston, Mass.

Lecture No. 12

Private Fire Protection—C. W. Mowry, Manager, Factory Mutual Laboratories. Deputy Chief William F. Quigley, H. P. Stewart, Engineer.

Instruction and demonstrations in the operation of sprinklers, check valves, dry pipe valves, standpipes, safety devices, and private fire protection in general. This also to include knowledge obtained with reference to apparatus and operations at fires in industrial, mercantile, and manufacturing buildings. This lecture to be held at the premises of the Associated Factory Mutual Fire Insurance Companies, 184 High Street, Boston. Lecture period 9 a.m. to 10 a.m., followed by a question period from 10 a.m. to 10:30 a.m. Demonstrations 10:30 a.m. until 12 noon.

Part II—Laws and regulations governing private fire protection devices. Operation of the department on response to buildings equipped with private fire protection equipment; methods to be employed to gain an entrance to buildings, etc. This also to include private fire brigades, and fire drills, but not alarm systems.

Lecture No. 13

Responding to Alarms and Returning from Fires, by Deputy Chief Kelley.

Instructions with reference to routes to fires, traffic congestion, driving of apparatus, accidents, etc. Methods of operation at pier fires.

Lecture No. 14

Laws and Ordinances—H. Murray Pakulski, Asst. Corporation Counsel.

Instructions in laws and ordinances relating to fires and fire matters. Rules and regulations relative to garages and other hazardous occupancies, volatile liquids, highly inflamable solids, etc. Chapter 148 of the General Laws of the Commonwealth of Massachusetts.

Lecture No. 15

Electrical fire and Life Hazards. Robert E. Dillon, Chief Engineer, Edison Electrical Illuminating Co.; Thomas H. Haynes, Superintendent of Maintenance of Lines; and Walter E. Burke, Superintendent of Wire Division, Boston Fire Department.

Instructions in the proper method of handling electrical fire hazards, life hazards, electrical appliances, causes of electrical fires and the method of operation on such fires. Lecture in Two Parts. Part 1 to be given at the Edison Electric Illuminating Plant in Roslindale.

Lecture No. 16

Incendiarism, Arson, Etc. Deputy Chief Albert J. Caulfield.

Instructions in the various causes of fires, incendiarism and how it may be detected, arson, etc. Instructions in the method of detecting causes of fire, preserving of evidence, etc., including moral hazards.

Lecture No. 17

Building Inspection, by District Chief Dennis J. Coughlin.

Instructions in building inspection, laws, ordinances, rules and regulations as they affect the City of Boston. This also includes operations at fires in office buildings.

Lecture No. 18

Building Construction, by Edward W. Roemer, Building Commissioner.

Instructions in the various methods used in building construction relative to fire retarding qualities, slow burning, etc. Zoning laws, heights, etc. Notes on materials of construction with reference to fire.

Lecture No. 19

Oil Fires. A. L. Brown, Director of Laboratories, Associated Factory Mutual Fire Insurance Companies. District Chief Edward G. Chamberlain.

Instructions in the method used in building oil burning equipments, laws, ordinances, rules and regulations governing installation of same, methods of fighting fires where found. Methods and proper operation at all oil fires, including transportation of oil and oil on water. Part 1 of this lecture will be held at the Factory Mutual Laboratories.

Lecture No. 20

Operation At Fires, by Deputy Chief Thomas H. Downey.

Cellar fires, one story fires, taxpayers, warehouse fires, chimney fires.

Lecture No. 21

Subway and Tunnel Fires. E. I. Lockman, Assistant Superintendent of Maintenance, Boston Elevated Railway. Walter E. Burke, Superintendent, Wire Division, B. F. D., District Chief John P. McDonough.

Instructions in the methods of combating fires in subways and tunnels. This also includes fires in elevated structures and bridges, also lumber yards.

Lecture No. 22

The Chemistry of Fire. George F. McNeil, Chemist, Boston Consolidated Gas Company. C. Ray Lowe, Engineer

Result of a Combined Effort to Help the Needy

For seven or eight weeks prior to Christmas, about 1,200 toys were repaired by members of the Fire Department, Wenatchee, Wash., to be distributed to the poor children of the city. A Santa Claus, with the aid of a small truck used by the department, distributed the toys. The photograph shows ten of the thirteen men of the force and a portion of the toys that were repaired. H. W. Bryson is Chief.

of Educational and Technical Department, Frigidaire Company.

Instructions in the chemistry of fire, explosives, inflamable and explosive gases, gases under pressure, inert gases, acids, mechanical refrigeration, etc.

Lecture No. 23

Elementary Fire Fighting, by District Chief Edward J. Locke.

Dangers to be avoided at fires, ladder duty, ventilation duty and overhauling at fires.

Lecture No. 24

Fire Fighting. District Chief Samuel J. Pope, Deputy Chief Walter McLean.

Instructions in the proper method of operation in the handling of fires involving life and property in hotels, apartment houses, theatres, hospitals, public buildings, tenements, and dwellings.

Lecture No. 25

Fire Fighting. Assistant Chief Henry J. Power.

Instructions in the proper and efficient use of apparatus and operations at fires in industrial, mercantile, and manufacturing buildings. Fire fighting in the high value district. Preliminary operations at fires.

Lecture No. 26

Marine Fires. Captain John W. Williams, Engine 44 (Fire Boat).

Instructions with reference to the use of fire boats, method of operation at ship and dock fires. Coal pockets on waterfront and island fires.

Lecture No. 27

Conflagrations, Emergencies, Etc. District Chief Charles A. Donohoe, Captain Thomas D. Brown.

Instructions relative to resources available for conflagrations, earthquakes, or any extraordinary condition. Freight and passenger elevator accidents.

Dominion Chiefs to Meet in Halifax, N. S.

A large attendance is expected at the annual convention of the Dominion Association of Fire Chiefs which will be held in Halifax, Nova Scotia, probably the third week in July. Chief W. S. Vaughan of St. John, N. B., is Chairman of the Exhibit Committee. Many topics of great interest to Fire Departments will be presented.

George F. Hand of Eureka Dead

George F. Hand, manager of the Chicago office of the Eureka Fire Hose Manufacturing Company, since he entered the employ of that company in 1908, died on January 1 following an illness of eight months.

The Late George F. Hand

He was born in Elgin, Ill., on December 23, 1863.

For twenty-three years he was a resident of Maywood although he lived in Oak Park during the past six years. Mr. Hand was well known in Fire Department circles.

Chief G. H. Litman Dead

Chief George H. Litman, in charge of the Fire Department of Uniontown, Pa., since 1914, died in the Uniontown Hospital, January 1, from the effects of a stroke.

Chief Litman was a member of the Eastern Association of Fire Chiefs, Vice-President of the Western Pennsylvania Firemen's Association, Chaplain of the Southwestern Pennsylvania Fire Chiefs' Association, member of the Pennsylvania State Firemen's Association, and the International Association of Fire Chiefs.

He is survived by his widow, three children, one brother and one granddaughter.

Philadelphia May Cut Pay of Firemen

Either the firemen of Philadelphia, Pa., must accept a twenty-five per cent cut in their wages or one-fourth of the personnel will be dropped, according to a plan adopted by the City Council.

The City Controller insisted that the administration could not wait until next Fall to see whether some unexpected revenue appeared, but that it must reduce wages or dismiss employees at once. He further stated that unless the department payrolls represented actual cuts, he would not certify them.

J. A. McCarthy Starts Own Company

Justin A. McCarthy, well known salesmen of hose and Fire Department supplies, entered business for himself on February 1, under the name of the Justin A. McCarthy Company, with office and salesroom at 176 Federal Street, Boston, Mass.

Justin A. McCarthy

Mr. McCarthy was born in Waltham, Mass., but moved to Newton in early youth where he has since resided. After attending the Newton High School he became associated with the Henry K. Barnes Company and for many years was manager of the fire hose and fire equipment section of this firm.

From 1916 to 1919 he served in the Newton city government as an Alderman, having the endorsement of both the Republican and Democratic parties.

He is an associate member of the New England Association of Fire Chiefs, the Fire Chiefs' Club of Massachusetts, and the Rhode Island Fire Chiefs' Club.

HARRY BELKNAP.

New York Holds Test for Chief

(*Continued from page* 55)

Question 10—Table of Chemicals (Continued)

7. Amyl nitrate	8. Ethyl chloride
9. Sulphuric ether	10. Carbon dioxide
11. Carbon monoxide	12. Anhydrous ammonia
13. Sulphur dioxide	14. Acetone
15. Ethyl Aldehyde	16. Aniline oil
17. Metallic magnesium	18. Yellow phosphorus
19. Sulphur	20. Metallic sodium
21. Calcium carbide	22. Potassium chlorate
23. Caustic soda	24. Unslaked lime

25. Barium peroxide

Report, Weight 2

To Be Finished by 2.00 P.M.

Write a report for the Fire Commissioner outlining the extent and scope of drills and training which in your opinion, should be established and maintained in the New York Fire Department.

N. B. 1—Sign this report "John Doe," Chief of Department. If you sign anything else, or if, by any statement made in the subject matter of your report or elsewhere, you indicate your identity, directly or indirectly, your paper will not be rated.

N. B. 2—In rating this report, the principal consideration will be given to the knowledge of the subject displayed by the candidate. Consideration will be given also to directness and logical arrangement of the statements made and the opinions expressed.

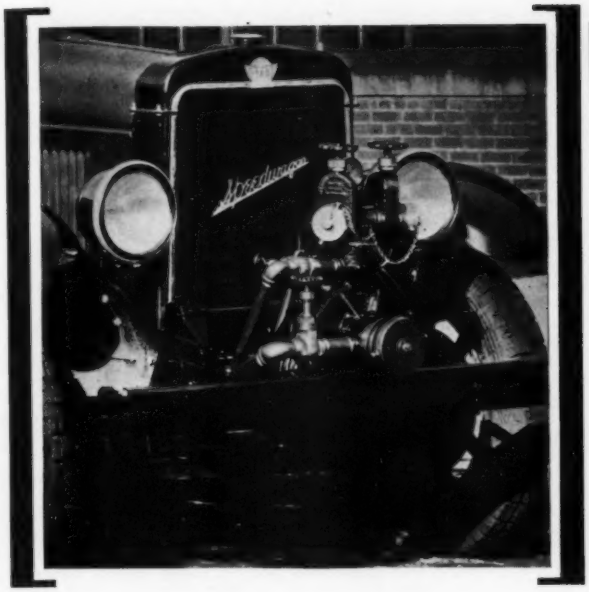
Maine Fire Chiefs Hold Meeting

An all day meeting of the Maine Fire Chiefs' Club was held in Lewiston, Me., January 12. Mayor Harold Skelton of Lewiston welcomed the chiefs to his city.

The meeting concluded with a dinner at the DeWitt Hotel at which Chief J. W. Randlette of Richmond was toastmaster.

Chief E. T. Ricker of Biddeford spoke of the influence of politics in the Fire Department. Chief Oliver T. Sanborn of Portland gave a brief account of the Havana convention of the I. A. F. C. Chief Charles O. Spear of South Portland spoke on education in connection with public safety. Other speakers were Chiefs Hutchinson of Boothbay Harbor, W. S. Mason of Bangor and Dr. Joseph W. Scannell, Fire Commissioner of Lewiston. Chief Giles Frost of Norway, President of the club, presided at the meetings.

The next meeting will be held in Bridgeton, Me., on April 12. Charles Bowken of South Paris, Me., is Secretary.



Ideal Apparatus to Meet 1932 Budgets

YOU can save your community hundreds of dollars and still have first class, adequate protection by insisting upon the Barton Fire Pump.

With a Barton Pump no special, high priced fire truck is required. Any standard commercial chassis can be successfully used—and without costly changes, special transmission, etc.

As shown above, the Barton Pump mounts on front. It is driven by the truck motor in a simple, positive manner, involving a patented principle which protects both pump and motor from wear or injury.

Both the U-34, 300-gallon pump and the U-45, 500-gallon pump have passed the Underwriters' 12-hour Tests. Being centrifugal type, they will pump clean or dirty water from city mains or from suction. They are automatically primed.

A Barton Fire Pump gives you the utmost in dependable performance—at much lower cost. Consult your apparatus dealer, or write us for Bulletin 60. AMERICAN STEAM PUMP COMPANY, Battle Creek, Michigan.

BARTON FIRE PUMPS

THIS EMBLEM

A.D.T. SYSTEM

MEANS THIS TO YOU.....

● It means a great organization helping YOU to guard against and fight fires. Every new installation of A. D. T. protection devices is one more chance of getting the apparatus to the fire in the shortest possible time.

● A.D.T. may be found on many different devices. For instance, the Aero Automatic Fire Alarm "feels" fire...and, within a few seconds, an alarm is transmitted to the nearest fire headquarters. A. D.T. also stands for the supervision of night watchmen. This service keeps them on the job ... they must patrol and report at their stations on time or A. D. T. checks up on them ... instantly! Where A. D. T. stands guard, VIGILANCE is COMPULSORY.

● A.D.T. is always glad to hear from fire fighters anywhere...especially where their protection services have been able to prove their great value to fire departments. Write us.

CONTROLLED COMPANIES OF
AMERICAN DISTRICT TELEGRAPH COMPANY
155 SIXTH AVENUE · NEW YORK N.Y.

Paul V. Harris Dead

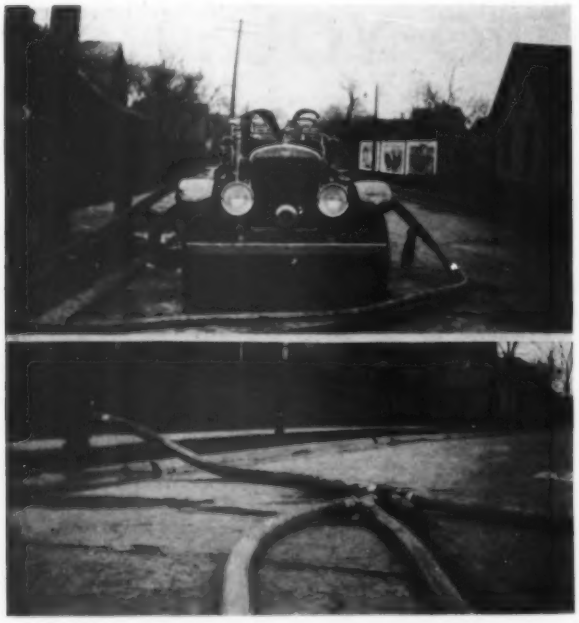
Paul V. Harris, well known to the Fire Chiefs and city officials of the Pacific Coast district, died in Alameda, Cal., at the age of seventy-one.

He first came to California in 1906 as a representative of the Manhattan Rubber Company, of New Jersey, and two years later he joined Nat Dodge with the Western Belting & Hose Company, an organization which was the forerunner of the present American Rubber Manufacturing Company. Mr. Harris had been Secretary of the latter organization since it was founded by Nat Dodge.

Provides Emergency Water Supply

While a cross connection was being made from a main in Milwaukee, Wis., to West Allis, a 1,000-gallon Pirsch pumper operated continuously for 64 hours and 43 minutes. The pumper had been in service in the West Allis Fire Department since August 1, 1930. During the time the pumper was performing this emergency service, it delivered 4,400,000 gallons of water or an average of 1,125 gallons per minute at an average pump pressure of 125 pounds.

Water was pumped from a 16-inch Milwaukee main into a 6-inch West Allis Main, a distance of 400 feet. Four 2½-inch lines were siamesed into a 3½-inch line ten feet long and then connected to a 4½-inch hydrant opening. Readings taken by the West Allis Water Department showed an average pressure at a hydrant of 44 pounds. The pumper operated continuously from 8:15 a.m. on January 20 until 12:58 a.m. on January 23.



Two Views of the Emergency Water Connection

Upper, Pirsch 1,000-gallon pumper connected to a 16-inch Milwaukee main by means of the hydrant. Lower, multiple lines connected to a hydrant in West Allis.

During the time the machine was operating, it consumed 240 gallons of gasoline and 13½ gallons of oil which included an oil change for the motor.

Fire Chiefs' Protective Association

A number of inquiries have been received by Chief Peter Steinkellner of the Milwaukee Fire Department concerning the activities of Frank Mackett who is promoting the formation of a Fire Chiefs' Protection Association throughout the states.

According to Chief Steinkellner:

"If an organization of this kind is necessary, the matter should be discussed on the convention floor of the International Association and decided there. I have no way of knowing whether the Chiefs feel as though it is necessary to have such an organization, nor have I any information on this gentleman as to his methods of operation. I believe the International Association is capable enough to do its own organizing without outside assistance by professional promoters."

Incidentally, Chief Steinkellner received quite a number of letters regarding the Protective Association. Inasmuch as the organizers or their representatives have never placed their plans before the Chief, he wishes it made known that he is in no position to answer such communications.

Jersey City Has a Smoky Fire

The cover illustration of the January issue of FIRE ENGINEERING received such favorable comment that a more detailed account is given of this fire which occurred in Jersey City, N. J., on December 29.

At 3:12 p.m., Deputy Chief Patrick Cooney and Battalion Chief Ennis responded to the alarm with three pumpers and two ladder companies. They found the fire in a three-story brick furniture warehouse of the old type of construction, and the fire had made considerable progress. Heavy smoke was rolling out from the upper windows and flames were visible at points within. A second alarm was sounded at 3:17 p.m.

Chief Roger Boyle, and Deputy Chiefs Tully and Daly responded with three pumpers, one ladder company, one water tower and the rescue squad. Owing to a high wind, and the immediate adjoining frame construction hazards, a third alarm was sent at 3:22. This brought three more pumpers, one ladder company, and auxiliary apparatus. Five pumpers and four ladder units relocated.

Through prompt ventilation and good work from the outside, the fire was confined to the center of the building. A stout fire wall handicapped the men in getting to the seat of the blaze, and powerful streams from the water tower had to be directed over the roof to a large skylight which was chopped open by ladder crews. The all out signal was sounded at 10:15 p.m.

Engine companies used 2½ and 3-inch hose. The water pressure was good. All apparatus was of the American-LaFrance make—the pumpers being of 1,000-gallon capacity, and the ladders, 75-foot aerials.

Massachusetts Chiefs Meet

State Fire Marshal James M. Hurley, of Massachusetts, was the guest of honor at the January luncheon meeting of the Fire Chiefs' Club of Massachusetts which was held on January 20 in the Salle Moderne of the Hotel Statler in Boston.

Seated at the head table with the President, Chief Frank Tracy, of Woburn, were the Marshal; Chief Jeremiah F. Sullivan, of Fall River; Fire Commissioner Carey, of Fall River; Chief Samuel Daoust, of Marlboro; Ex-Chief F. Burt Jaquith, of Randolph, Secretary; Ex-Chief Reuben D. Weekes, of Providence, R. I., and the Rev. Norris T. Morton, Chaplain of the Rhode Island Fire Chiefs' Club.

Two new members were elected, Louis W. Bills, Superintendent of Fire Alarms, Lexington, Mass.; and Harold W. DeVere, of Walter Kidde & Co., makers of the Lux fire systems, as an associate member.

Fire Marshal Hurley was the principal speaker and promised to cooperate in every way with the Fire Chiefs. Chief William C. Mahoney, of Peabody, reported on the new tenure of office act for Fire Chiefs which has been introduced in the Massachusetts Legislature.

A discussion took place regarding the hazards of oil burners and fuel oil tanks. Among those who spoke were Chief Selden R. Allen, of Brookline; Supt. Peter E. Walsh, of the Boston Protective Department; Chief James M. Casey, of Cambridge; Chief Patrick J. Hurley, of Holyoke; Chief Fred A. Clark, of Attleboro; Chief Henry A. Fox, of Boston; Chief Harold J. Conron, of North Reading; Chief O. O. Ordway, of Reading; Chief George L. Johnson, of Waltham; and Chief Homer B. Whiting, of Hampton Beach, N. H.

HARRY BELKNAP.

Dugas Resigns From Du-Gas Corporation

Charles H. Meigs, President of the Du-Gas Fire Extinguisher Corporation, has announced that L. J. Dugas, on January 30, resigned as Vice-President and Director of the corporation and that he is no longer connected with the organization.

YOUR BADGE is an emblem of the service to which you have devoted your life— YOU SHOULD BE PROUD OF IT

OUR complete catalog is in the files of practically every fire chief in the country. If you want one, just write for your copy.

EVERY badge fashioned by our skilled craftsmen is an enduring emblem of a service of which you may well be proud. It is the emblem of men who are ready at all times to face danger in performance of their duty as guardians of life and property. Your badge means a lot. It certainly should be one that looks and wears well. In fact, it should be a Braxmar Badge. These fine badges have been the choice of firemen who want the finest badge they can get for the money they have to spend. Braxmar Badges are reasonably priced; they look exceptionally good, and they wear exceptionally well. Remember that when you buy the new badge you've been wanting.

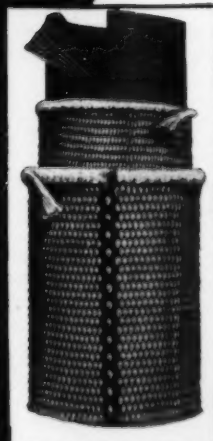
BRAXMAR BADGES

Standard for Over Fifty Years

C. G. BRAXMAR CO. 242 W. 55th St., NEW YORK

CRACKERJACK FIRE HOSE

The hose with an unsurpassed reputation for QUALITY and SERVICE that has made it the STANDARD for over twenty-five years.



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New Victor Gas and Fume Mask

Better Rubber. Longer Life. Better Fitted. Moulded to Fit the Face. Better Vision. Renewable Lenses. Better Air. Better Work. Low Prices. High Quality.

Over 5,000 Victor Gas Masks in Service

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The Woodhouse Mfg. Co., Inc.

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D. A. Woodhouse, Pres. and Gen. Mgr. — George J. Kuss, Vice-Pres. and Treas.

National Intermediate Ejector

The most essential accessory to modern fire apparatus—National Foam Equipment.

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Established 1864

DOOR SPRINGS

Complete Automatic Spring Outfits for Doors Opening In and Out. Used throughout the world. Once on the doors your door opening troubles cease. They last a lifetime. Send for Bulletins.

COMFORT AND SECURITY WITH THE CAIRNS LATEST LOW HEAD CUSHION LINED HELMET

COMFORTABLE AS YOUR OLD FELT HAT; WON'T SHAKE OFF

Never go to a fire without the protection of a good helmet. It may save your life.

Send for your copy of Catalog No. 227, showing this latest improvement.

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72 GRAND STREET — Established 1836 — NEW YORK

Quick-Acting Reliable

Anderson-Hale Improved

FIRE STATION DOOR OPENERS

Over 1,300 sets of Anderson-Hale Fire Station Door Openers are in successful use. They provide simple, durable, quick-acting doors that open inward. No obstruction to sidewalk. Attractive in appearance, cannot sag, closes tight, excludes cold, gives clear opening.

Opens from driver's seat or from floor. Many repeat orders from users.

Write for complete information.

The Anderson Coupling & Fire Supply Co.

Mfrs. Motor Fire Equipment and Fire Supplies

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Hedberg Super Sirens

"The World's Best by Test"

offer the world's greatest and most versatile range of choice involving sizes and methods of operation.

Write for descriptive matter showing sirens that have never lost in competition.

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ALB QUICK HITCH PANTS and RUBBER FIRE COATS

Used by some of the largest fire departments in the country. These outfits should be standard in every worth while department. They go on in a second—last for years—and you can't beat these prices.

COATS—Size: 38 to 46.....$6.50
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(Slightly higher for larger sizes.)

Ask your dealer for ALB—he can get them for you or write direct.

ALB RUBBER COMPANY

70 Union Square — Somerville, Mass.

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if you fail to find in our advertising pages any items that you are interested in. FIRE ENGINEERING stands ready to put you in touch with manufacturers of anything you may need, either now or in the future. 24 W. 40th St., N. Y. C., will reach us. A card will do to let us know your wants.

We shall appreciate your mentioning FIRE ENGINEERING *when writing advertisers.*

FIRE DEPARTMENT ACTIVITIES

Piper City, Ill., is planning to purchase new fire apparatus.

The Council of Galion, Ohio, is considering the purchase of an aerial ladder truck.

A two-story inspection of Charleston, W. Va., was made by the National Fire Protection Association.

Harry C. Anderson of Mannington, W. Va., was elected Chief for the thirtieth time at the annual election of officers.

A two-story fire station will be erected in Ross Township, Pa. It will have a sixty-foot hose drying tower.

Considerable progress has been made on the installation of a new fire alarm system for Petersburg, Va.

The Fire Department of Miller, Mo., is raising funds for the purchase of new fire equipment.

Fire losses in Detroit, Mich., for 1931 were $644,623 less than the total for 1930.

A combined village hall and fire house has been dedicated in Farmingdale, N. Y.

Pico, Cal., is investigating the possibility of the formation of a volunteer Fire Department. At present some protection is afforded by the Los Nietos station of Los Angeles.

Jacksonville, Fla., has been urged to start construction on a new fire station to be located in Lakeside Park. Appropriations have been made for this work.

A 350-gallon pumper provided with 150-gallon booster tank was delivered to Crosby, Minn., for community use and for the protection of rural property.

A new fire station will be erected in Hollis, L. I., to house Engine Company 301 and Ladder Company 150 of the New York Fire Department.

The construction of two new fire stations was recommended for Albuquerque, N. M., by Chief Art Westerfeld in his annual report.

A Luverne 350-gallon pump and hose combination was delivered to Sauk Center, Minn. The apparatus was built on a 1½ ton, long base, Reo chassis.

Alliance, Ohio, has invited bids for repairs to the city fire stations. These alterations will make possible the interchangeability of equipment from various stations.

A decrease in fire losses in West Virginia for November has been reported by C. O. Stahlman, State Fire Marshal. The losses decreased fifty-seven per cent over 1930 figures.

Sentiment has been growing in Altoona, Pa., for the purchase of new pumpers This move is being endorsed by industrial interests.

The Chamber of Commerce of Wilmington, Cal., is trying to have a new fire alarm system installed for the harbor district.

Manitowoc, Wis., is considering the erection of a new fire station. An option has been secured on a possible site for the building.

William J. Munn, one time Fire Chief in Saranac Lake, N. Y., died at his home following a five months' illness. He was sixty-two years old.

A new fire house was opened in Port Washington, N. Y., on New Year's eve. On January 17, the building was opened for public inspection.

Purchase of new fire apparatus to take the place of one wrecked recently, was urged by Chief William Burnett of Des Moines, Iowa. The apparatus is estimated to cost $7,000.

By a vote of more than two to one, Plattsburgh, N. Y., voted for the purchase of a new pumper to cost about $13,000. One of the units now in service broke down at a recent fire.

Mayor Manning of Lynn, Mass., stated that the city is in need of a new aerial ladder and he expressed the hope that the proposed Fire Department headquarters building will be constructed during his regime.

Because of shortage of city funds, all bids for the construction of a combined fire and police building in Woodland, Cal., were not opened. No action will be taken until the new tax money is collected.

No additional firemen have been provided for in the 1932 budget of Allentown, Pa. Although it is generally felt that three new fire stations should be erected, such a move has been postponed as an economy measure.

Thirty firemen of Philadelphia, Pa., were overcome by carbon monoxide in a fire in a theatre. The smoke originated in smoldering posters in the basement and from burning films. Police reserves were called to handle the crowds which assembled.

Chief A. B. Sprau of Monroe, Wash., died in Rochester, Minn., following a series of operations. At the funeral service, the church was not large enough to hold the many who attended. He was a member of the Elks, Masons, Eagles and Junior Mechanics.

Frank G. Feirer, Chief of the Fire Department, Roselle Park, N. J., died at his home following a long illness. He had just completed four years as head of the department. He is survived by his widow, a son, his mother and a brother.

Chief Fuller of Brawley, Cal., has recommended that the Council purchase new fire apparatus, erect a new fire station and install a fire alarm system consisting of forty fire alarm boxes. At present, it was said, the personnel of the department is about half of the number required by the Fire Underwriters.

John H. Scott, for sixteen years Chief of the Milford, Mass., Fire Department, died at his home in Braintree at the age of eighty-one. When the State Fire Marshal's office was established in 1894 he became a fire inspector. In 1902 he was transferred to the district police now called the state police.

One of the major projects of the Alameda County Fire Chiefs' Association of Alameda, Cal., is to include a fire prevention program as part of the regular school curriculum. The plan has been endorsed by the County Superintendent of Schools and he is working with the association so that this objective may be achieved.

New Jersey Chiefs Meet in Bloomfield

The New Jersey State Fire Chiefs' Association held its first quarterly meeting of the year in the Elks Club, Bloomfield, N. J., on February 3. Two sessions were held, morning and afternoon, and luncheon was served in the club at one o'clock.

Leon A. Watson, Expert of the Schedule Rating Office, Newark, was one of the speakers. Chief George E. Kober, of the Bloomfield Fire Department, described the workings of a semi-paid Fire Department. Such a plan is in force in Bloomfield. Charles W. Greenfield, President of the association, explained the compensation law which was recently passed in the state.

Newly Elected Chiefs

The following have been elected to head the Fire Departments in their respective municipalities:

Ishpeming, Mich.—Edw. J. Hickey.
Crookston, Minn.—Ross O. Schmidt.
Dumont, N. J.—Adolph Kolberg.
Reading, Pa.—Harry J. Brown.
Wood Ridge, N. J.—Michael Hahn.
Hamburg, N. J.—Wm. N. Current.
Wilmerding, Pa.—Thomas Hurney.
Sewickley, Pa.—J. C. Doughty.
Cheswold, Del.—William S. Scarborough
St. Francis, Kans.—Otto Boesch
Atlantic Highlands, N. J.—Thomas B. Scott, Jr.
Elmwood, Wis.—William Stephens
Spooner, Wis.—Henry Neck
Jefferson, Wis.—W. A. Moredock
Towaco, N. J.—D. Gentile
Rankin, Pa.—Henry Jordan
Glen Cove, N. Y.—Earle Crosser
Trevose, Pa.—Warren Tomlinson
Fountain Hill, Pa.—Thomas Kelly
Glenside, Pa.—Thomas A. Diehl
Belle Fourche, S. D.—Charles Miller
Erwin, S. D.—Jens Olsen
Ferndale, Pa.—Earl Martin
Franklin, Neb.—Harm Tecker
Ephrata, Pa.—P. H. Doremus
Pelican Rapids, Minn.—M. B. Myhre
Youngsville, Pa.—A. H. Bradway
Hurley, S. D. Charles W. Sanborn
Plainfield, Wis.—C. L. Ferguson
West Branch, Ia.—H. C. Brown
Hillsdale, N. J.—Wilbur Ottignon
Medina, Ohio—E. H. Tinsman
Milesburg, Pa.—Grover Benner
Springville, Utah—Leonard J. Taylor
East Paterson, N. J.—Walter Carlisle
Haddon Heights, N. J.—E. N. C. Davis
Islip, N. Y.—John Dempsey
Ottawa, Ohio—Barney Rechtine
Lodi, N. J.—Frank M. Corse
Glenwood Landing, N. Y.—Oscar Wiggins
Colville, Wash.—A. R. Lesser
Toledo, Ia.—F. C. Smith
Sparta, N. J.—John T. Jennings
Albany, Ore.—E. H. Horsky

PROPOSED IMPROVEMENTS

Colon, Mich.—Reports state village election resulted in vote for purchase of fire truck.

For Sale

A 65' aerial in fine condition at a very reasonable price. Description and price can be had by writing for same. Address: Box 435, c/o FIRE ENGINEERING, 24 West 40th St., New York, N. Y. (2)

Fall River, Mass.—Reports state Mayor in his annual message urged replacement of ladder truck of fire dept.

Los Angeles, Cal.—Resolution presented asking that plans be prepared for two new fire stations on S. Griffin Ave. and Pasadena Ave., according to reports. Referred to fire commission.

Somerville, Mass.—Mayor John J. Murphy recommended purchase of additional fire apparatus.

A. R. Brown Leaves American-LaFrance

A. R. Brown, for forty-two years with the American-LaFrance and Foamite Corporation, and affiliated companies, recently presented his resignation which became effective on February 1. He expects to enter in business for himself, selling Fire Department appliances and specialties, and will have an office in New York City.

A. R. Brown

Mr. Brown started with the S. F. Hayward Company in 1889. This company manufactured Hayward Hand Grenades and was an agent for Babcock fire extinguishers and fire apparatus. It was later taken over by the American-LaFrance Fire Engine Company and Mr. Brown remained in the capacity of Sales Manager for Fire Department supplies for the New York Division. He held this position until November 30, 1917 when he resigned to become General Eastern Distributor for O. J. Childs Company of Utica, N. Y., manufacturers of fire apparatus. This company later became known as the Foamite-Childs Corporation.

In 1927, this company merged with the American-LaFrance and Mr. Brown was made General Sales Director and Assistant to the Vice-President of the American-LaFrance and Foamite Corporation. Later he became District Manager for the New York area. At the time of his resignation he was Manager of the Wholesale Department, Eastern Division.

Until the time when Mr. Brown will open his New York City office, his friends can reach him at his home address, 658 West 188th Street, New York City.

Safety Type of Portable Lantern

A safety type of portable electric lantern, said to be the first one to be approved for use in hazardous locations by the Underwriters' Laboratories, has been placed on the market by the Economy Electric Lantern Company, Chicago.

The Ecolite

The safety feature is obtained by a simple arrangement by which the circuit is opened whenever the lens is removed or is broken.

The lantern is operated by a six-volt battery and a minature lamp having a current consumption of 0.5 amperes at 5 volts.

Chief Grant Dead

Robert H. Grant, Chief of the Fire Department in Beverly, Mass., for twenty-three years and said to have been one of the oldest active Chiefs in the country, died on January 29 after an illness of two months. He was eighty-six years old. He started in the fire service as a torchboy. Chief Grant is survived by a sister.

"Fire Chiefs Special" for San Diego

American-LaFrance announces that they will again sponsor the "Fire Chiefs Special" to the International Association of Fire Chiefs convention in San Diego, Cal., in October. A detailed announcement will be sent to all interested as soon as the plans now being formulated are completed.

"No-Freez" Fire Hose

For some time the Bi-Lateral Fire Hose Company, Chicago, has been making tests on a treatment for a double jacket hose. This treatment is applied to the inner jacket and is called "No-Freez" by the company as it is claimed that it can be used and rolled up in weather twenty degrees below zero.

CONVENTION DATES

Feb. 10—FIRE CHIEFS' EMERGENCY PLAN OF WESTCHESTER COUNTY, N. Y. February Meeting and Dinner, Fire House, Union Corners, near Bronxville, N. Y. Secretary-Treasurer, Lieut. Eugene Riviere, Fire Headquarters, Larchmont, N. Y.

March 11—SOUTHEASTERN KENTUCKY MUNICIPAL LEAGUE AND FIREMEN'S ASSOCIATION. Next Meeting, Harlan, Ky. Secretary-Treasurer, P. T. Cairns, City Clerk, Pineville, Ky.

March 17-18—NORTHERN CALIFORNIA FIREMEN'S ASSOCIATION. Next Meeting, Orlando, Cal. Secretary, Assistant Chief H. K. Smith, Redding, Cal.

April 12—MAINE FIRE CHIEFS' CLUB. Next Meeting, Bridgeton, Me. Secretary, Charles Bowken, South Paris, Me.

May 9-12—NATIONAL FIRE PROTECTION ASSOCIATION. 36th Annual Meeting, Atlantic City, N. J. Managing Director, Franklin H. Wentworth, 60 Batterymarch St., Boston, Mass.

May 11—DEL-MAR-VA VOLUNTEER FIREMEN'S ASSOCIATION. 3rd Annual Convention, Cape Charles, Va. Secretary, W. A. Karpa, Cape Charles, Va.

May 19—IOWA FIRE CHIEFS' ASSOCIATION. Annual Convention, Ames, Ia. Secretary-Treasurer, Chief L. R. Morris, Ames.

June—NORTHWESTERN OHIO VOLUNTEER FIREMEN'S ASSOCIATION, 60th Annual Convention, Gibsonburg, Ohio (exact date to be decided later). Secretary, Harry Smith, Supt., Water Works, Port Clinton, Ohio.

June 6-9—NEW MEXICO STATE FIREMEN'S ASSOCIATION. 10th Annual Convention, Raton, N. M. Secretary-Treasurer, Theodore A. Rosenwald, Albuquerque, N. M.

June 13-15—FLORIDA FIRE COLLEGE. 3rd Fire College, Daytona Beach, Fla. Address, Florida State Firemen's Association, Fire College Committee, Chief Paul D. Joyce, Chairman, Haines City, Fla.

June 13-15—MINNESOTA STATE FIRE DEPARTMENT ASSOCIATION. 60th Annual Convention, River Falls, Minn. Secretary, Fred. Pfaender, New Ulm, Minn.

June 14-15—MICHIGAN STATE FIRE CHIEFS' ASSOCIATION. 7th Annual Convention, Hotel Pantland, Grand Rapids, Mich. Secretary, George F. Dansbury, Grosse Pointe Farms, Mich.

June 21-24—ILLINOIS FIRE COLLEGE, 8th Annual College, University of Illinois, Champaign-Urbana, Ill. Director, Prof. L. H. Provine; Secretary, Asst. Chief Roy W. Alsip, Fire Department, Champaign, Ill.

June 21-24—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 10th Annual Convention, Newport, R. I. Headquarters, Hotel Viking; Meetings and Exhibits, Casino, Newport Beach. Secretary-Treasurer, Chief John W. O'Hearn, Watertown, Mass.

June 22-23—INDIANA FIRE CHIEFS' ASSOCIATION. Annual Convention, LaFontaine Hotel, Huntington, Ind. Secretary, Archie McCabe, Muncie, Ind.

July—DOMINION ASSOCIATION OF FIRE CHIEFS. 34th Annual Convention, probably the third week of July, Halifax, N. S. (Exact date to be decided later). Secretary, Chief James Armstrong, Kingston, Ont. Chairman, Exhibit Committee, Chief W. S. Vaughan, St. John, N. B.

July 11-14—MICHIGAN STATE FIREMEN'S ASSOCIATION. 58th Annual Convention, Monroe, Mich. Secretary, H. L. Williams, Luddington, Mich.

August—VIRGINIA STATE FIREMEN'S ASSOCIATION. 46th Annual Convention, Alexandria, Va. (Exact date to be determined later.) Secretary, O. W. Dabney, Staunton, Va.

Aug. 2-4—INDIANA FIREMEN'S ASSOCIATION. 16th Annual Convention, Columbus, Ind. Secretary, Clem Smith, Post Office Box 520, Terre Haute, Ind.

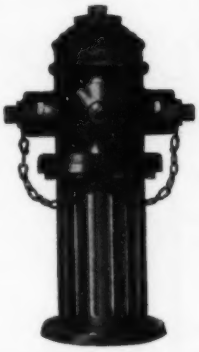
Aug. 22-25—MONTANA STATE FIREMEN'S ASSOCIATION. 41st Annual Convention and 2nd Firemen's Short Course, Billings, Mont. Secretary-Treasurer, D. E. Moser, Billings, Mont.

Sept. 13-15—ILLINOIS FIREMEN'S ASSOCIATION. 45th Annual Convention, Orlando Hotel, Decatur, Ill. Secretary, Asst. Chief Roy W. Alsip, Fire Department, Champaign, Ill.

Sept. 21-22—NEW CASTLE COUNTY FIREMEN'S ASSOCIATION. Annual Convention, Wilmington, Del.

Oct. 18-21—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 60th Annual Convention, San Diego, Cal. Secretary-Treasurer, Ex-Chief James J. Mulcahey, 16 Franklin Avenue, Yonkers, N. Y.; Executive Secretary, Jay W. Stevens, 1014 Merchants' Exchange Bldg., San Francisco, Cal.; Chairman, Exhibit Committee, Chief W. S. Minter, Long Beach, Cal.

Here's why FIRE CHIEFS recommend



CRISPIN
FIRE HYDRANTS

FIRE departments should demand hydrants especially designed for fire service. The CRISPIN hydrant was designed to help you fight fires more efficiently, Chief. Before you replace old hydrants or install new ones, we suggest you let us send you our folder which completely describes CRISPIN hydrants and just why you should recommend them for your city or town.

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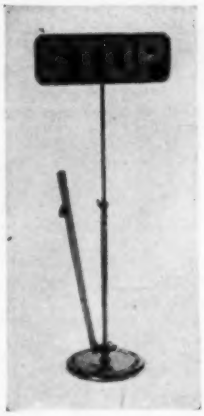
BERWICK, PA.
Offices: 165 B'way, New York. *Plant:* Berwick, Pa.



TRAFFIC STOP SIGNAL

FOR DAY or NIGHT USE

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FIRE LINES MAINTAINED WITHOUT THE USE OF ROPES

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The command "STOP" illuminated by a brilliant RED FLARE LIGHT, which means "DANGER" the world over.

RELIABLE—EFFICIENT—INEXPENSIVE
FRICTION CAP SAFETY IGNITION
Requires no matches to ignite

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USEFUL AT FIRES — FALLEN ELECTRIC LIGHT WIRES — BROKEN WATER MAINS —DANGEROUS BUILDINGS, ETC.

Packed complete in wood case with one dozen FLARE LIGHTS burning Red for 30 minutes.. $12.00

CENTRAL RAILWAY SIGNAL CO., INC.
DEALERS!—*Write for Sales Proposition*
NEWTON, MASS.

Reduce
WATER DAMAGE INSURANCE RATES *With*

CHIEF BEARD
Columbia, Tenn.

Shuredry SALVAGE COVERS

Columbia, Tenn.,
February 24, 1931.

Fulton Bag & Cotton Mills,
Atlanta, Ga.
Dear Sirs: We have been using Shuredry Covers for some time and I think they are one of the greatest things that is used in connection with the Fire Department, and when I need any more it will be Shuredry Salvage Covers.
Thanking you for past favors, I remain,

W. P. Beard
Chief.

Don't put off this important matter, but write for Shuredry samples today.

Manufacturers Since 1870
Fulton Bag & Cotton Mills
St. Louis · Atlanta · Dallas
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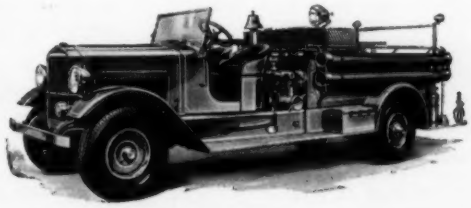


MAXIM
FIRE APPARATUS

is the sort of equipment that any chief should be proud to add to his department. In actual service it has proven that it pays to deal with a company that takes particular pride in every job they turn out.

Every practical type of fire fighting machine is built at the Maxim plant. Whether you plan buying within the next few months—or the next few years—we urge you to send us your requirements and let us help you select the right type of equipment to fill your needs.

MAXIM MOTOR COMPANY
MIDDLEBORO, MASS.

Metropolitan Sales Agents:
The Woodhouse Manufacturing Co., 156 Chambers Street, New York

FALSE ALARMS

—*Courtesy, The New Yorker*

"Madam, the firemen were here."

VICE VERSA

It was with a sense of relief that the other boys at the station noticed that Donahue was assigned to theatre detail. It meant that at least for one night there wouldn't be a continual fire of jokes, old and new.

As Donahue walked down the alley of the theatre, onto the stage, he observed some one smoking. He called:

"Say, fellow, that cigar you're smoking is a reflection on the tobacco trust."

"That's not my cigar," answered the fellow. "That's the wind blowing your breath back to you."

Anyway, if your assets are frozen, you can depend upon your banker to make it hot for you.

STRIKING ACQUAINTANCE

The Chief's chauffeur said he liked his job very well because during the course of his day he ran into so many interesting people.

There are lots of women who would make an excellent match for a man who has money to burn.

TOO TASTY

A fireman was ordered to bed because of long exposure at a fire. The doctor who was called left a quantity of quinine powders in capsules which was to be taken at stated intervals.

The next day the fire-fighter's youngster handed the doctor a box filled with empty capsules.

"Pop says to tell you," said the boy, "that he's took all that darned nasty stuff you put in these little ca'tridges, an' he wants t' know if you can't put something better tasting in 'em when you fill 'em this time.

After looking them all over, we believe the dachshund is the best front drive dog on the market today.

BOBBY KNEW

It was Mike's night off—that is he didn't have to check in at the station but at home, it was different. The only way that he could get out from his home was by promising to take Junior with him. On the corner three of the boys were waiting for Mike so that they could go to the show together.

Mike went. So did Junior.

Next day, Junior was asked by his mother, "How was the show?"

"Oh, gee, Ma, it was dandy. They had ladies dressed in stockings up to their necks."

"Cheese, what a trick!" said the rat, as the trap shut on him.

TAKEN TOO LITERALLY

Two firemen who were studying for promotional examinations in the department, decided to do their work in the public library. However, when they arrived, one lost all desire to study but wanted to tell stories. The other pointed to a neatly lettered sign and said:

"The sign in the library which says only low talk permitted doesn't mean you can tell dirty jokes."

ONE AND ALL

In appreciation for the way a fire was extinguished in their beautiful residence, Mr. and Mrs. J. Hemingway Green sent the following note to the Chief:

"Mr. and Mrs. J. Hemingway Green request the pleasure of Chief McCarthy's company at dinner on the 20th."

And the Chief not having had the opportunity to brush up on the rules of formal dining, replied:

"With the exception of seven men who are now on leave, Chief McCarthy's company have very great pleasure in accepting your invitation."

A radical is one who has the courage to be convicted.

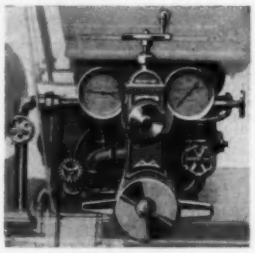
—*Drawing by "Art" Ebsey*

And the Captain's report read: "Came in on a still—found small fire but serious exposure—finished up in short order—mopped up wet spots—returned to quarters in excellent spirits."

WATEROUS

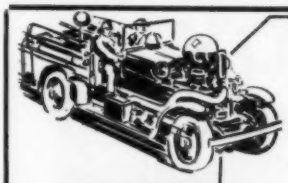
DEPENDABLE FIRE PUMPS

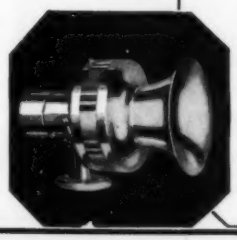
Nearly fifty years of development is behind the Waterous Fire Pump. Produced by modern equipment and experienced workmen. The Waterous Hydrant is likewise the result of years of experience. WATEROUS COMPANY, St. Paul, Minnesota.



Waterous Dependable

NORTHERN PUMP COMPANY
ESTABLISHED 1907
MINNEAPOLIS, MINN.





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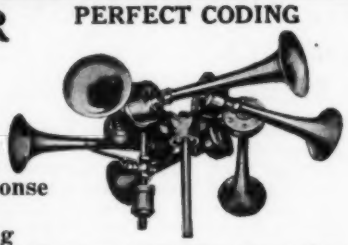

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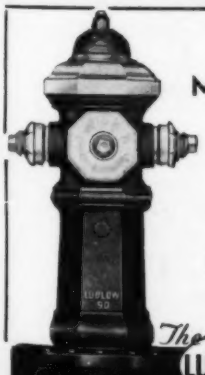

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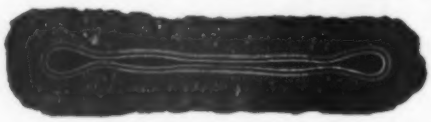

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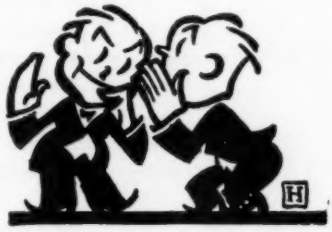

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